

LINDA CROCKETT LINGLE
Mayor



COUNTY OF MAUI
PLANNING DEPARTMENT
250 S. HIGH STREET
WAILUKU, MAUI, HAWAII 96793

BRIAN W. MISKAE
Director

GWEN Y. OHASHI
Deputy Director

RECEIVED

'95 APR 24 P3:41

OFFICE OF ENVIRONMENTAL
QUALITY CONTROL

April 10, 1995

Mr. Gary Gill, Director
Office of Environmental Quality Control
200 South King Street, Fourth Floor
Honolulu, Hawaii 96813

Dear Mr. Gill:

RE: Final Negative Declaration for the Proposed Lahaina
Business Park at Lahaina, Maui, Hawaii TMK 4-5-10:7

The Maui County Planning Department, as the accepting authority, is transmitting for publication in the OEQC Bulletin, the final Negative Declaration for the Lahaina Business Park Commercial and Light Industrial Subdivision proposed by the applicant, West Maui Venture Group.

A brief description of the proposed action is contained in the summary section in the attached OEQC Bulletin Publication Form. We have also attached four (4) copies of the Final Environmental Assessment as prepared by West Maui Venture Group.

Thank you for your cooperation in this matter. If further clarification is required, please contact Ms. Ann Cua of this office.

Very truly yours,

Brian W. Miskae

BRIAN MISKAE
Director of Planning

AC:sac
Enclosure
cc: John Kean
Eric Maehara
C. Suyama
A. Cua
Project file

46

1995-05-08-MA-FEA-Lahaina Business Park

MAY - 8 1995



Final Environmental Assessment for the Lahaina Business Park

West Maui Venture Group
381 Huku Li'i Place, Suite 202
Kihei, Maui, Hawaii 96753
Telephone (808) 874-0658



TABLE OF CONTENTS

<u>CONTENTS</u>	<u>PAGE</u>
EXECUTIVE SUMMARY	1
CHAPTER 1 PROJECT OVERVIEW	3
GOVERNMENTAL APPROVALS / PERMITS REQUIRED	8
CHAPTER 2 DESCRIPTION OF THE AFFECTED ENVIRONMENT ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES	9
CHAPTER 3 RELATIONSHIP OF THE PROPOSED ACTION TO MAUI COUNTY PLANS, POLICIES AND CONTROLS FOR THE AFFECTED AREA	28
CHAPTER 4 SUMMARY OF ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED	41
CHAPTER 5 ALTERNATIVES TO THE PROPOSED ACTION	42
CHAPTER 6 FINDINGS AND CONCLUSIONS	43
CHAPTER 7 PROJECT TIMETABLE	44
CHAPTER 8 AGENCIES CONTACTED IN THE PREPARATION OF THE ENVIRONMENTAL ASSESSMENT AND RESPONSES RECEIVED	45
COMMENTS RECEIVED DURING PUBLIC REVIEW PERIOD AND RESPONSE LETTERS	

Table of Contents
Page Two

FIGURES

- Figure 1a: Land Use designation map
- Figure 1: Community Plan Land Use Map
- Figure 2: Maui County Planning Director's Proposed Revision
- Figure 3: Vicinity Map
- Figure 4: Conceptual Development Plan Map
- Figure 5: Flood Insurance Rate Map
- Figure 6: Department of Transportation Preferred
Alternative to the Lahaina Bypass Map

LAND OWNERSHIP DOCUMENTATION

APPENDICES

- Appendix A: Marketing Study
- Appendix B: Traffic Impact Analysis
- Appendix C: Environmental Site Assessment Phase I Report
- Appendix D: Engineering Report
- Appendix E: Drainage and Soil Erosion Report
- Appendix F: Botanical Survey
- Appendix G: Survey Avifauna and Feral Mammals
- Appendix H: Historic Preservation Review



Lahaina
BUSINESS PARK

Executive Summary

EXECUTIVE SUMMARY

LOCATION

West Maui Venture Group (WMVG) is a limited partnership formed by John M. Kean and J. Steven Goodfellow, the general partners. The limited partnership was formed to develop 37.7 acres of agriculture designated land. The West Maui Venture Group dba THE LAHAINA BUSINESS PARK.

The property (TMK II 4-5-10:7) is bordered to the south by the Kahoma Stream Flood Control Channel, to the north by the Housing Finance Development Corporation's Villages of Leiali'i affordable housing development project. Directly makai of the project is approximately 27 acres and 4 acres of vacant land currently owned by Hawaii Omori Corp. The 27 acres is just mauka of the Lahaina Cannery Shopping Center and is zoned light industrial.

PROJECT DESCRIPTION

The project is a ten year, two-phased development project consisting of urbanization and rezoning of the 37.7 acres from agriculture to M1 light industrial parcels. It is anticipated that approximately 32 acres will become net usable parcels for sale in fee or lease.

Phase one consists of obtaining necessary federal, state and county, urbanization, rezoning, and subdivision requirements in order to bring to market 22 light industrial acres ranging in size from 1/4 to 5+ acres (Figure 4). Phase one will consist of a tenant mix that would accommodate both large and small businesses predominately made up of automotive, flex space, offices, retail users, storage facilities, distribution facilities and base yard facilities.

Phase two construction will commence when Phase one is substantially absorbed. Phase two will be constructed and developed on the southern side of the property adjacent to the northern end of the Kahoma Flood Control Channel. Phase two will require the construction of a secondary roadway and consist of approximately 10 acres of usable space for the development of lots ranging in size from 1/2 to 4+ acres. Because these lots will not be on the main connector road running directly through the property, it is anticipated that these lots will be more ideally suited for businesses needing less exposure, i.e. distribution centers, lumberyards, base yards, storage facilities, etc. Projected total absorption will be over a ten year period.

CURRENT STATUS

Extensive and positive communications have been ongoing with affected property owners. The partnership has met with or will be meeting with the Department of Transportation, HFDC, Water Department., Department of Public Works, Planning Department. and will be meeting with other government agencies. The partnership is in the final negotiation stage with Hawaii Omori, in coordinating access issues.

The Lahaina Citizens Advisory Committee, the Maui Planning Department and the Maui County Planning Commission, have all recommended to the Maui County Council that the subject property be designated M-1 light industrial zoning. Additionally, the above listed agencies have recommended that a proposed bypass connector road dissect the property.

The redesignation of the property from agriculture to urban was reviewed by the State Land Commission on February 23, 1995. The final findings, facts and conclusions of law have not yet been issued.



Lahaina
BUSINESS PARK
AN AFFILIATE OF THE HAWAIIAN BUSINESS DEVELOPMENT CORPORATION

Project Overview

CHAPTER I
PROJECT OVERVIEW

1. REGIONAL SETTING

The regional extent of existing and planned land uses are shown in Figures 1 and 2. The project site is located in Lahaina town, south of Kapunakea and Wahikuli subdivision and north of the Kelaweia subdivision and the Kahoma Stream Flood Control Project.

North of the project site, approximately 2.5 and 7.5 miles respectively, are located the resort areas of Kaanapali and Kapalua and approximately 20 to 25 miles south of the project area is the Kihei-Wailea-Makena resort area, both of which are major employment centers. Other existing or planned light industrial projects in the regional vicinity of the proposed project are the Lahaina Industrial Park, and the proposed Napili Trade Center. The 27 acres immediately makai of the West Maui Venture Group property is currently zoned M-1 light industrial, however there are no known immediate plans to develop this site.

2. PROPOSED GOVERNMENTAL ACTION

The Lahaina Citizens Advisory Committee, the Maui Planning Department and the Maui County Planning Commission, have recommended to the Maui County Council that the subject property be designated from agriculture to M-1 light industrial zoning. Additionally, the above listed agencies have recommended that the bypass connector road be rerouted to dissect the project instead of the current planned Kapunakea connector road. Other necessary county approvals are being submitted concurrently with this request for zoning change. This rezoning request and Environmental Assessment (EA) will support all state and county permit applications that may be required.

3. PURPOSE AND CONTENT OF THIS COMMUNITY PLAN AMENDMENT AND ENVIRONMENTAL ASSESSMENT

Maui County Code, Chapter 2.80 (General Plan and Community Plans) Maui County Charter, Section 8-8.4 and 8-8 outlines requirements for applicants requesting a Community Plan Amendment of land in Maui County, to provide an assessment of conformity to the Community Plan Amendment to applicable goals, objectives and policies of the Maui County and Lahaina Community Plan. This application clearly achieves the requirements and provides a succinct assessment of the applicable goals objectives, and policies of the Maui County Plan.

This application for Community Plan Amendment and the Environmental Assessment have been prepared to identify and assess the potential environmental impacts that could result from the development of the proposed project, including on and off-site infrastructure components. Through this process as well as the technical studies performed in support of this Environmental Assessment the developer has proposed appropriate mitigation measures for potential impacts and to ultimately create a well-planned environmentally sound project.

This application has been prepared in compliance with the provisions of Title 19, Maui County Code, 1980 (As amended) Chapter 19.510 Section 19.510.040 and Title 11, Department of Health, Chapter 200, Environmental Impact Rules. A description of the proposed project; the existing environmental conditions; the probable environmental consequences that could result from the project; the mitigation measures that would be employed to minimize potential adverse impacts; and the relationship of the proposed project to the existing land use plans, policies and controls are provided in this document. The information contained herein has been developed from site visits, public information meetings, studies conducted specifically for this document and generally available information regarding the environmental characteristics of the project site and surrounding area. Studies and surveys prepared for and used in the analysis and assessment process include the following:

- Civil Engineering Studies (On- and Off-site Roads, Drainage, Water and Sewer Systems)
- Market Study
- Environmental and Hazardous Waste Study
- Botanical Survey
- Landscape Architectural and Planning Analysis
- Avifauna and Feral Mammal Survey
- Traffic Survey
- Soils Studies

4. PROJECT SETTING

The lands on which the proposed project are located are owned by West Maui Venture Group. The 37.7 acres were purchased from Amfac/JMB in November of 1993. They are situated adjacent to the HFDC Villages of Leiali'i project to the north, the Kapunakea House lots No. 2 subdivision to the northwest, the Hawaii Omori to the west and the Kahoma stream parallels the entire southern boundary. The property to be developed is identified as TAX MAP KEY (TMK II 4-5-10:7). It should be noted that when the subject property was acquired the identification was a portion of TAX MAP KEY (TMK II 4-5-10:5) and has since been changed to TMK II 4-5-10:7. The parcel is designated agriculture by the State Land Use Commission. All current title searches reflect the subject property to be free and clear of any ceded land issues, the Departments of Hawaiian Home Lands, Land and Natural Resources and The Office of Hawaiian Affairs have been notified of this reclassification amendment.

The project lands are currently leased to Pioneer Mill Company, Ltd. (PMCo), a wholly owned subsidiary of Amfac/JMB. The term of the lease runs from November 1994 to November 1995. PMCo will harvest the existing crop on or about the termination date of the lease.

5. OFF-SITE INFRASTRUCTURE

The planned off-site infrastructure components that would primarily serve the proposed project include the following elements:

- Electrical Distribution and Communications (Telephone and TV) Systems
- Regional Highway System
- Potable Water Supply, Storage and Transmission System
- Sanitary Sewer System
- Surface Water Drainage System
- Storm Water Drainage System

6. ON-SITE INFRASTRUCTURE

The on-site infrastructure components that will serve the proposed project include the following elements:

- Internal Roadway System
- Potable Water Distribution System
- Irrigation Water System
- Sanitary Sewer Collection and Transmission System
- Underground Electrical Distribution System
- Underground Communications (Telephone and TV) Systems
- Storm Water Drainage System

7. SUMMARY OF BENEFICIAL IMPACTS

- **DEMAND** - As the enclosed marketing study reflects (Appendix A) there will be an increasing need and demand for light industrial space in the West Maui area. The demand for industrial space is expected to exceed supply over the next fifteen years. The marketing study done for the HFDC Villages of Leiali'i in 1990 states "*there appears to be a great need for light industrial space in West Maui.*" There has been no additional light industrial projects made available to the general public since 1970 in the West Maui area. Increasing the supply to West Maui will potentially provide more economical lease rents to the businesses of the area.
- **EMPLOYMENT** - The proposed project will have a very positive impact on the current unemployment situation being experienced in the West Maui area, both in the short and long term. In the short term it will provide construction employment both in the development of lots and buildings. In the long term the project is expected to employ six hundred additional workers at build out and full occupancy.

- **ENVIRONMENTAL** - The physical characteristics of the land are suitable for urban development while affording the opportunity to retain some of the rural character of the area and particularly well located for light industrial uses, given its proximity to existing industrial lands and convenience to consumers.

The site is absent of threatened or endangered species of plants and animals and there are no significant archaeological sites within the project boundaries.

According to the Flood Insurance Rate Map revised September 6, 1989, prepared by the US Federal Emergency Management Agency (Figure 6), the project site is located outside the 100 year flood boundary. The existing Kahoma Stream Project will mitigate any potential flood hazards. The site is also absent of natural hazards and no significant degradation of air, noise or water quality would occur as a result of the project.

- **TRAFFIC**- It is anticipated that the project will have positive beneficial impacts on the existing and future traffic in the immediate area. WMVG will construct its main road in a manner that could be developed for the assimilation into the proposed connector road that will connect the Honoapiilani Highway and the Lahaina Bypass through the Project.
- **FISCAL**- It is estimated that when the entire project is built out and fully occupied by businesses, the potential gross revenue would be in excess of \$400,000,000 annually. This would have significant impact on real property tax receipts, gross excise tax collections and would also impact other tax collections for the county of Maui and the State of Hawaii
- **ENTERPRISE ZONES**- Act 78, Session Laws of Hawaii 1986 created Enterprise Zones program under the auspices of the Department of Business, Economic Development & Tourism. The purpose of the program is to stimulate business growth and hiring of low income persons by manufacturing, agricultural, producers, wholesalers and repair, cleaning and maintenance businesses in areas with above-average unemployment and/or below average income levels. The West Maui area has been determined to qualify as a Enterprise Zone area. The projected business ownership and tenant mix of the Lahaina Business Park generally will meet the conditions and criteria for qualification as a Enterprise Zone area. The Enterprise zone program will provide incentives for employment and the creation of new businesses for the West Maui Area.

8. SUMMARY OF PROPOSED MITIGATION MEASURES

Various measures will be taken during the construction phases of the project to mitigate potential adverse short-term impacts. These measures will include water spraying construction areas for dust control, the use of retention basins to prevent erosion and control planting as soon as practical. Construction noise will be controlled through the use of mufflers on all construction equipment and the use of sound attenuating construction materials. Long-term mitigation measures will include appropriate improvements to utility systems and services within the project area.

9. SUMMARY OF COMPATIBILITY WITH LAND USE PLANS AND POLICIES

Following granting of the change in zoning the project will be consistent with the proposed Maui County General Plan. The present Lahaina Community Plan has recommended that the property be designated M-1 light industrial and that the connector road be routed through the property. To move forward, the project will also require several governmental permits, as listed below (Table 1).

10. NECESSARY APPROVALS AND PERMITS

This application has been prepared to support the Rezoning Application, Land Use Boundary Amendment and various State and Maui County permit applications. Table 1 lists the *major* approvals and permits required for the Project. Other approvals will be required after the following have been obtained. In keeping with sound planning and building practices, the proposed project will observe local agency processes and practices.

TABLE 1

MAJOR GOVERNMENTAL APPROVALS/PERMITS REQUIRED

<u>APPROVAL</u>	<u>APPROVING AGENCY OR BODY</u>
<u>Maui County</u>	
Change of Zoning	Public Works, Planning Commission County Council, Mayor
Plan Approval	Department of Public Works
Subdivision Approval	Department of Public Works
Grading Permit	Department of Public Works
Building Permit	Department of Public Works
Water Permits	Board of Water Supply
<u>State of Hawaii</u>	
Land Use Boundary Amendment	Land Use Commission (Hearing was held 3/23/95)
Ground Water Use Permit	Board of Land and Natural Resources
Historic Sites Review	Department of Land and Natural Resources Historic Sites Section
Water Well Drilling/Development	Department of Land and Natural Resources Department of Health
Waste Water System	Department of Health
Attachment to State Roads	Department of Transportation
<u>Federal</u>	
NPDES permit	U.S. Army Corps of Engineers



**Description of the Affected Environment,
Environmental Consequences and
Mitigation Measures**

CHAPTER II

DESCRIPTION OF THE AFFECTED ENVIRONMENT, ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES

1. INTRODUCTION

The general and/or specific physical, natural and social environmental characteristics, archaeological and cultural resources and infrastructure and public facilities serving the proposed project are described in the following sections of this chapter. The analyses presented herein are generally based on an assumed "worst case" situation that would include the development of the full 37 acres. Should less land be developed, it is presumed that potential impacts would be less for most environmental resource issue areas. Additionally, the information contained herein covers both the on- and off-site infrastructure components that will serve the proposed project. For ease of review and evaluation, information and analyses of the impacts of the proposed project are provided from the standpoint of existing conditions, probable impacts and mitigation measures that would be required to minimize potential adverse impacts. The information contained in this chapter has been developed from (1) specific field and/or office environmental, engineering or planning studies conducted specifically for this project, the input, advice, guidance and information provided by public agencies, private groups, organizations and business leaders of the project area, prior to and during the development and review of this Environmental Assessment; and (2) comparisons and evaluations by specialty consultants of the proposed project and consultants involved with planned or existing projects.

2. PHYSICAL ENVIRONMENT

2.1 GEOLOGY, PHYSIOGRAPHY, SOILS AND AGRICULTURAL POTENTIAL

2.1.1 Existing Conditions

2.1.1.1 Geology and Physiography

The project site is located at the base of the West Maui Mountains which are derived from volcanic eruptions of the West Maui Volcano and subsequent erosion which created the deep valleys and incisions found today. The project area geologically is characterized by Wailuku basalt as the parent rock and lava of the Lahaina volcanic series. The Wailuku basalt is the primary and most widespread formation in West Maui while the Lahaina series is restricted to a few outcrops near Lahaina town. The off site, Puu Laina, in which Crater reservoir is located, is the focus of the Lahaina series rocks. Typically, the volcanic basalt in the project area is thin-bedded and pahoehoe lava which erupted chiefly through narrow cracks so that only a few cinder cones were produced.

Toward the close of the eruptive period (Pleistocene), violent explosions are indicated by inter stratified beds of tuff and agglomerate containing large blocks.

There are no known geothermal or other thermal resources below the project site.

Physiographically, the site slopes downward in a westerly direction, from an elevation of about +120 feet Mean Sea Level (MSL) at the northeast corner to about +30 feet MSL along the cane haul road, with a local topographic gradient of approximately 120 vertical feet per 2,000 feet in a southwesterly direction. The nearest large surface water is the Pacific Ocean, which is approximately 2,200 feet from the site. The project area slopes range from about 6 percent to about 12 percent.

2.1.1.2 Soils

The soils of the project site are classified by the US Department of Agriculture, Soil Conservation Service (1972), and as confirmed by soil borings on the project property. The project site soil categories are described below and shown on Appendix C to this EA.

Wahikuli Stony Silty Clay, 7 to 15 percent slopes (WcC): This soil group is similar to WcB, except that there are enough stones in the surface layer to hinder cultivation.. Runoff is slow to medium and the erosion hazard is slight to moderate. This soil type is used mostly for sugar cane and a small amount is used for home sites. Capability classification is IIIe if irrigated, IVe if non-irrigated; sugar cane group 1, pasture group 3.

Wahikuli Very Stony Silty Clay, 3 to 7 percent slopes (WdB): This soil is similar to Wahikuli silty clay, 3 to 7 percent slopes, except that as much of 3 percent of the surface is covered with stones. In some areas, as much as 15 percent of the surface is covered with stones. This soil is used mostly for sugar cane and a small acreage is used for home sites. Capability classification is IVs if irrigated, VIs if non-irrigated; sugar cane group 1; pasture group 3.

Rock Land (rRK): Rock land is made up of areas where exposed rock covers 25 to 90 percent of the surface. It occurs on all major Hawaiian islands. The rock outcrops and very shallow soils are the main characteristics of this soil type, with basalt and andesite the principal rock types. This land type is nearly level to very steep. Rock Land is used for pasture, wildlife habitat and water supply. This land type is also used for urban development. The soil has high shrink-swell potential and buildings on steep slopes are susceptible to sliding when the soil is saturated. Foundations and retaining walls are susceptible to cracking. Capability classification is VIIs, non-irrigated.

2.1.1.3 Agricultural Potential

The Overall Productivity Rating [UH Land Study Bureau (LSB)] classifies soils according to five levels, with "A" representing the class of highest productivity and "E" the lowest. About 16

percent of the site has soils rated "A", 40 percent rated "B", 33 percent rated "C", and 11 percent rate "E". None of the soils are rated "D".

The Proposed Land Evaluation and Site Assessment (LESA) System, (State of Hawaii Land Evaluation and Site Assessment Commission) evaluates soil quality, location attributes, improvements, nearby activities and land use plans. If the proposed LESA classified approach were applied to the site, 94 percent of the designated lands (all but soil types rRK and rRs) would be termed "important agricultural lands" (IAL), which would include all lands having a rating of 51 or above, out of a possible total of 100. The designation could be changed if an overriding public benefit were demonstrated.

Supply and Diversity of Prime Agricultural Land: The trend in Hawaii since 1968 is that much acreage of prime agricultural land has been freed from sugar and pineapple production, for conversion to other diversified agriculture, aquaculture and urban uses. This trend will likely continue on a statewide basis; sugar plantation closings and conversion to other uses are occurring due to the unfavorable outlook of sugar prices. Conversion to urban uses typically occur when agriculture land is adjacent to existing urban uses or encompassed by urban uses, as in this case.

Agricultural Production: PMCo, founded in 1860, is the smallest sugar operation in the state. In 1987, PMCo cultivated 6,922 acres of sugar cane lands, (including the subject site), a reduction in size from 1981 of 8,386 acres. The property is owned by West Maui Venture Group and leased by PMCo until November 1994.

2.1.2 Probable Impacts

The proposed project is not expected to significantly affect the geology of the area. The grading and excavation work required for the project will affect the physiography of the site to a relatively minor extent. To the degree possible, existing grades will be used to provide visual relief and to reduce construction costs. The soils of the project will also be affected to a minimal extent. The use of retention areas within the development will reduce the potential for soil erosion.

Subsurface soil conditions are not expected to adversely affect development of the site or be affected by development of the site. The silty clays are generally in a stiff condition and excessive settlement due to building loads, as well as fill placement, is not expected. The soils covering the project site generally exhibit low to moderate expansion potentials and will not require replacement with less expansive soils.

Impacts to the agricultural potential of the region have been estimated in terms of the loss of sugar cane production (tons), loss of agricultural jobs, impact on growth of diversified agriculture on Maui and in the state and impact on the visual resources of the area. In the November 6, 1992 Agricultural Assessment, conducted by Evaluation Research Consultants, for the AMFAC/JMB 260 acre, Puukoolii Village Project, concluded "*It is not the availability of land that is limiting the expansion of diversified agriculture, but rather a combination of the small local market and the lack of suitable export crops*". The assessment further concluded, "*However, due to market parameters the declining importance of the sugar*

industry, and the availability of similar lands elsewhere in the State, taking the subject lands out of agriculture will not have a significant impact on the agricultural sector of Maui County or the State".

In the November 1989 Agriculture Assessment conducted by Decision Analysts Hawaii Inc., for the adjacent 1200 acre HFDC Villages of Leiali'i project, concluded, "*the limiting factor is not land supply, but rather the market demand for those crops that can be grown profitably in Hawaii*". In terms of the loss of agricultural jobs, the proposed project is not expected to eliminate any agricultural jobs, it is however expected to ultimately house the employment of about 600 people at build out and full occupancy.

In terms of diversified agriculture, the proposed project is not expected to adversely affect the statewide growth of diversified agriculture and probably would have little if any affect on diversified agriculture on Maui. The latter is due to a number of factors including competition for land and water resources, competition from other areas and the lack of unique location characteristics favoring the project site.

2.1.3 Mitigation Measures

Because no significant impacts to the geology, physiography or soils of the project site or area are expected to result from or to the proposed project, mitigation measures, other than standard engineering and building design practices, are not warranted. Similarly, although the project area would be removed from productive agricultural use, significant adverse impacts to the overall statewide and/or Maui sugar cane production levels are not expected. Appropriate engineering and landscape design measures will be taken.

2.2 POTABLE WATER, DRAINAGE, SEWER AND HAZARDOUS WASTE

2.2.2 Potable - Non-potable Water

2.2.2.1 Existing Conditions

The source of water for most of Lahaina are four wells located above Alaeloa and referred to as Napili Wells 1, 2, and 3 and Honokowai Well A. This source is being temporarily supplemented by water from Wahikuli Well No. 1 that was developed by the State for it's Villages of Leiali'i project.

The Department of Water Supply is also installing a surface water treatment plant at Mahinahina above Honokowai. When completed in March 1996 the Napili well sources will be augmented by 2.5 MGD of treated surface water from Honolua Ditch.

Water from the Napili source is being transmitted to Lahaina by a series of 12 and 16 inch lines approximately 13 miles in length. Two in-line booster stations are being installed, one at Kahana and the second at the Lahaina Civic Center, to increase the capacity of these transmission system. Storage for the area between the Lahaina Civic Center and Lahainaluna Road where subject project

is located, is being provided by the 1.5 MG storage tank in Wahikuli. The floor elevation of this tank is at 235 feet above sea level.

From the Wahikuli storage tank a series of 16 and 12 inch transmission lines convey water to Kapunakea Street. Between Kapunakea Street and the Lahaina Shopping Center on Baker Street, the transmission line reduces in size to 8 inches.

2.2.2.2 Mitigation Measures

The estimated average daily demand for the proposed industrial park when completely built out and occupied based on Board of Water Supply criteria of 6000 gallons per acre per day (gpAd) is 193,000 gpd.

The size distribution line for light industrial and commercial zoned properties is usually governed by fire flow. According to Board of Water Supply (DWS) standards, fire flow for industrial and commercial zoned areas is 2000 gallons per minute. In order to be able to deliver this flow, a 12 inch line will be required. However, utilizing actual usage of water on industrial zoned lands on Maui, 2000 gallons per acre per day, the actual demand for the project is 63,000 gallons per day.

The present water source development of the County in West Maui comprises of 5 County wells, being Napili Wells 1, 2 and 3 and Honokahau Wells A and B. In addition, approximately 1.0 million gallons of water per day is taken from the Honokohau irrigation ditch and about 1.5 million gallons a day is taken from another surface source at Lahainaluna. A new treatment plant was added to the irrigation ditch at Honokahau with a capacity of 2.5 million gallons per day. Further, a new treatment plant is planned for the Lahainaluna surface source with a capacity of 1.5 million gallons per day. Accordingly, it is anticipated that there will be sufficient water source development for the proposed project.

Improvements to the transmission system in the area will include installing approximately 2,000 linear feet of 12-inch line along Honoapiilani Highway from an existing line at Kapunakea Street. Further, lines from Honoapiilani Highway to the project and within the project will comprise of 12-inch line with fire hydrant spaced at 250 feet apart in accordance with the water system standards for DWS.

Since the highest ground elevation of the project site is 120 feet, storage for fire protection can be provided by the 1.5 MG storage reservoir at Wahikuli. Nevertheless, storage and source assessments will be paid in conjunction with the new meter fees.

The applicant has agreed to recommendations made by the Maui County Planning Department that, if and when made available to the site, the developer shall use treated affluent in the common area landscape for irrigation purposes. Potable water shall be used until such time as the affluent is made available.

2.2.2 DRAINAGE

2.2.2.1 Existing Conditions

Sugar cane is currently being grown on the project site. The area up-slope and northeast of the site is also in sugar cane cultivation. The recently completed Kahoma Stream Flood Control Project is situated to the south.

Presently runoff from the contributory drainage area above subject property sheet flows across the site in a northeasterly to southwesterly direction into Kahoma Stream. For a 50 year recurrent interval rainfall, the peak flow under current conditions is estimated to be about 83.9 cfs.

Off-site drainage (downstream) from the project will be intercepted by diversion ditches or other means acceptable to the County in order to adequately handle and convey flows to Kahoma Stream. These drainage structures and facilities will incorporate erosion control and other devices to maintain water quality downstream, subject to County approval.

Engineering analyses of present and future surface water and drainage patterns have been performed specifically for the proposed project (Unemori Engineering, Inc., 1994). In addition, a Flood Insurance Rate map (FIRM) for the project area has been produced by the Federal Emergency Management Agency (FEMA) (Figure 6). As shown on Figure 6, the project site is absent of flood hazards. As indicated in the engineering report (Unemori Engineering, Inc., 1994), and in preceding sections of this Environmental Assessment, sugar cane is currently grown on nearly all of the project site. Sugar cane is also being cultivated on the slopes as high as approximately 8000 feet above site. This cultivation limits surface water runoff from the project site. Kahoma Stream represents its southerly demarcation. Two large irrigation reservoirs for Pioneer Mill Company are also situated at the northeast corner of the site, adjacent to Kahoma Stream.

Storm runoff in the north gully flows across Honoapiilani Highway through a 48-inch culvert. The capacity of this drainage culvert is estimated to be 70 cfs.

2.2.2.2 Probable Impacts

The recently constructed Kahoma Stream Flood Control Project which abuts this property insures the ability of compliance with all government requirements. The potential impacts of subsurface drainage is not expected to significantly affect the near shore or offshore areas.

2.2.2.3 Mitigation Measures

Post development runoff from the project site and surrounding cane fields for a 50 year recurrent rainfall is expected to total 128.4 cfs amounting to an increase of approximately 53.0 percent. Storm drain systems with catch basins spaced at appropriate intervals throughout the subdivision streets will be installed for the project. Offsite run off will be intercepted by diversion ditches along the upper boundaries of the site and channeled into the new storm drain system. Storm water collected by this drainage system will be directed into the Kahoma Stream channel at appropriate locations. To mitigate potential adverse impacts from surface runoff, the onsite runoff will be

directed into subsurface detention facilities before being released into Kahoma Stream. A NPDES permit from the Department of Health and approval of the Corps of Engineers will be obtained, as necessary during the design phase of the project.

To minimize and/or eliminate potential impacts from surface water runoff, the on-site drainage from the project will be channeled into culverts and retention basins as recommended in the preliminary project engineering report (Unemori Engineering, Inc., 1994). The final engineering drawings and specifications will be reviewed and approved by the County Engineering Department. Various RCP up-sizing, new channels and retention basins will be required to attain acceptable drainage patterns and velocities. Detailed engineering and design analyses and studies will be performed prior to construction of project elements to assure that adequate drainage structures and methods are incorporated into the proposed project. It is not anticipated that the runoff into the Kahoma Stream will not exceed the amount of flow that is presently going into Kahoma Stream. All lots or businesses contained within the project which deal with industrial liquids would be required to conduct such activities on concrete surfaces. Further, runoff from such surfaces would first be directed through an oil separator sump so that the oil and water would be separated. Individual lot owners will be required to install these oil/water separators. The requirements that these separators are provided will be directed by recorded Covenants, Conditions and Restrictions.

2.2.3 SEWER SYSTEM

2.2.3.1 Existing Conditions

There is a 27 inch gravity sewer line on Honoapiilani Highway below the proposed project site. This gravity sewer feeds into SPS No. 3 located in Wahikuli below Honoapiilani Highway. From this pump station two other pump stations and a series of force mains and gravity lines convey wastewater into the Lahaina Wastewater Reclamation Facility northeast of Kaanapali Resort. The capacity of this reclamation facility is presently being expanded from 6.7 MGD to 9.0 MGD.

2.2.3.2 Probable Impacts

The proposed sewer system will have no negative impacts on the existing regional sewer system.

2.2.3.3 Mitigation Measures

Maui County master plan standards for wastewater for industrial projects requirement 4,000 gallons per acre per day; however, based upon actual water consumption the requirement would be 1,600 gallons per acre per day. This would require a range from 50,000 to 137,000 gallons per day for the project.

The Lahaina Treatment Plant has recently been expanded from 6.7 million gallons per day capacity to 9.7 million gallons per day capacity providing adequate capacity for the project. However, the County has not made any commitment for any allocation for wastewater treatment for the proposed project at this time.

The County indicated that the developer will be required to fund any necessary offsite improvements directly related to the wastewater collection system and pump stations. The developer will pay pro rata share of impact fees for treatment plant expansion costs.

All lots in the proposed project will be connected to a sewage collection system. This would be a gravity system within the project which gravity line would be extended down to Honoapiilani Highway for about 1,000 feet. At Honoapiilani Highway, a 27 inch gravity line within the highway would take the wastewater toward north Kaanapali where the treatment plant is located.

2.2.4 HAZARDOUS WASTE

2.2.4.1 Existing Conditions

In November of 1993 a Preliminary Environmental Site Assessment-Phase I report was conducted on the subject property. Appendix K. The assessment was conducted to evaluate the existing conditions at the project site and to investigate the site's history and identify areas of potential environmental concern. The assessment concluded that the potential for environmental impairment at the site is moderate to low. The use of pesticides, including fungicides, insecticides and herbicides has occurred at the site as part of routine agricultural practices. The Federal Insecticide, Fungicide, Rodenticide Act (FIFRA) regulates the use of pesticides. The study concluded there have been no reportable quantity releases of pesticides or other chemicals at the site as regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or the Hawaii Environmental Response Law (HERL).

2.2.4.2 Probable Impacts

The proposed project is not expected to generate any hazardous waste or environmentally dangerous products or by products that will be released into the environment..

2.2.4.3 Mitigation Measures

Extreme care will be taken during the entire construction to insure sound construction practices are followed that adhere to all Federal, State and County laws relating to hazardous waste maintenance and disposal.

2.3 SOLIDS WASTE COLLECTION AND DISPOSAL

2.3.1 Existing Conditions

At present, solid waste generated in the area is collected and disposed of by the County and private contractors. Waste is disposed at the new Puunene landfill site in Central Maui. The County Public Works Department has just completed a new Convenience Center which receives solid waste from the Lahaina area. In an effort to reduce the quantities of solid waste presently generated on Maui and requiring disposal at landfill sites, community organizations and the County have begun recycling programs whereby organizations earn income from paper and metal wastes that are sold to recycling companies.

2.3.2 Probable Impacts

It is estimated that the quantities of solid waste to be generated by the proposed project will be about 3.5 pounds per person per day, based on the national average. It is expected that existing and/or planned public or private waste disposal sites would be adequate to handle increased amounts of solid waste to be generated. Further, the County has been considering the possibility of constructing a refuse fueled electrical generating station that would relieve pressure on existing landfill disposal sites. It is anticipated that some of the owner/tenant facilities will be equipped with waste compacting equipment to reduce the volume of solid waste generated by the proposed project, thereby assisting to extend the life of solid waste landfill sites..

2.3.3 Mitigation Measures

The applicant has submitted a solid waste management plan which, among other things, will require that all clearing and grubbing material remain on the project site and not be disposed in the County sanitary landfill. Said material would be used as mulch on the site as much as possible. Further, excavated material and rocks will be used as fill material during the development of the Property. Scrap metal will be removed from the Property site. This solid waste management plan was found acceptable to the County.

2.4 NATURAL HAZARDS

2.4.1 Existing Conditions

The primary potential natural hazards to which the property could be subjected include flooding and volcanic eruptions. (Refer to the above discussion in Section 2.2 regarding drainage and flooding issues). The following paragraphs describe volcanic hazards on the island of Maui.

Volcanic hazards in Hawaii have been studied in detail (Mullineaux, et al., 1987). Lava-flow hazards on Maui have been defined (Mullineaux, et al, 1987) from highest (1) to lowest (5) degree of hazard. As an example, lava-flow hazard Zone 1 includes areas in which about 50 percent of the land surface has been covered by lava flows during the last 1,000 years, and it covers the crater of Haleakala and the southwest rift zone. The proposed project site lies within lava flow hazard Zone 5. Hazard Zone 5 includes all areas of Maui that have not been affected by lava flows for at least 20,000 years.

In addition to lava-flow hazard zones, hazard zones for tephra falls (ashfall) have also been defined for Maui (Mullineaux, et al, 1987). Because of the low frequency of eruptions on Maui in comparison with the Big Island, the likelihood of areas being affected by ashfall is much lower. The proposed project site lies within ashfall Zone 3, which includes areas in which less than 1 cm of ash is expected to fall at an average rate of once per 1,000 years. This zone also includes areas in which 10 cm or more of ash may fall at least once per 3,000 years.

Hazard zones are not designated on Maui for pyroclastic surges, volcanic gases, ground fracture and subsidence or earthquakes. However, it is postulated by Mullineaux, et al (1987) that most future destructive earthquakes on Maui probably would be generated along the Molokai fracture zone (located between Molokai and offshore of West Maui) and thus could affect all or most parts of the island. Seismic hazards in the Lahaina area are similar to other locations on Maui and are accounted for in design standards and the building codes. Pyroclastic surge hazards are more likely from vents near or beneath sea level and those in areas of high groundwater table. The most likely locations of such vents are near the coastline along the two rift zones of Haleakala. The area of greatest potential danger to human health from volcanic gases is probably within the crater of Haleakala. The most likely area of ground fracture and subsidence in the future coincides with the crater and southwest rift zone, the result of these events most likely being associated with an eruption.

2.4.2 Probable Impacts

The proposed project is not expected to either significantly effect or be affected by volcanic or seismic hazards because of the engineering design standards that will be followed, in accordance with State and County rules and regulations. The project area could be impacted to some extent by volcanic eruptions and accompanying ashfalls. Based on the hazard analyses that have previously been performed (Mullineaux, et al), the project site is in the lowest range of volcanic and ashfall hazards.

2.4.3 Mitigation Measures

Due to the lack of expected significant impacts due to volcanic or seismic activity, mitigation measures, other than adherence to engineering design and building standards to minimize potential adverse impacts, do not appear warranted. No special precautions can be taken to mitigate potential volcanic hazards.

2.5 VISUAL ATTRIBUTES

2.5.1 Existing Conditions

The present visual character of the project site is characterized by the present sugar cane cultivation which provides a green backdrop to Lahaina town and all other areas makai of the site, and a barren earth backdrop after harvest. When green, the backdrop is an amenity that serves to attract visitors to the resort areas in the vicinity of the project site and is pleasing to the residents of and

visitors to Lahaina town. When the earth is barren, or during periods of burning the backdrop is considered extremely negative.

From within the project site, westerly views are of the shoreline, ocean and islands of Lanai and Molokai in the distance. To the north are limited views of the Kaanapali resort areas and West Maui Mountains and views to the south are views of Lahaina Town. Easterly views are toward the West Maui Mountains that form the backdrop for the project site.

2.5.2 Probable Impacts

The visual character of the project site will be changed from its present agricultural appearance to that of a light industrial park. Design standards will be established to reasonably blend in with the surrounding areas and backdrop.

2.5.3 Mitigation Measures

The primary mitigation measures that will be employed to minimize the loss of the green backdrop of non-harvest periods to Lahaina town and locations makai of the project site will be the use of landscaping on the project site. In addition, design standards will be established, defining the extent and type of landscaping material that should be used in and around the parcels. Parcels will be designed to blend in with and compliment the natural environmental setting of the project area.

In addition, the landscape plan provides for a street tree planting plan and also the installation of a vegetation buffer zone along the north and east or mauka perimeter of the Property. Additionally, applicant will require Covenants, Conditions and Restrictions to run with the finished lots which will contain urban design standards to incorporate more landscape planting and also incorporate standards dealing with color, and lighting within the particular project. The proposed buffer plan is for a 10 to 15 foot wide buffer containing vertical wiliwili plantings which could grow up as high as 40 feet.

3. NATURAL ENVIRONMENT

3.1 TERRESTRIAL FLORA

3.1.1 Existing Conditions

Field studies to assess the botanical resources on the site were conducted in March 1994, in addition to a literature search and aerial/topographic map examination. The primary objectives of the field studies were to (1) describe the major vegetation types; (2) inventory the terrestrial, vascular plants; and (3) search for threatened and endangered species on the project site. The following is a brief summary of the botanical survey report contained in Appendix E to this petition.

Vegetation on the Project site consists almost exclusively of actively cultivated sugar cane fields along with associated weedy species found alongside the cane haul roads, margins of fields, on rock piles. Uncultivated portions of the site, as around the two rock piles, support largely koa-haole

scrub. Appendix F describes on-site vegetation in detail, categorized in two areas: (1) cane fields; and (2) rock piles.

The majority of the plants occurring on the site are introduced or alien (see species checklist in Appendix F). A total of 24 species inventoried, . None of the native plants, are endemic, i.e., native only to the Hawaiian Islands, or indigenous, i.e., native to the islands and elsewhere.

None of the native species are officially listed threatened or endangered species by the federal and/or state governments (U.S. Fish and Wildlife Service 1985; Herbst 1987); nor are any of them candidate or proposed for such status. No native, indigenous or endemic species is on the appendix list. In the cane fields, the fast growing sugar cane tends to shade out other plants and the majority of the weedy species associated with cultivated, agricultural lands occurs along the margins of fields, cane haul roads and irrigation ditches. Only the nut grass (*Cyperus rotundus*) has adapted to growing under the dense cane. Among the most frequently observed weedy species found along cane fields are two grasses: swollen finger grass (*Chloris barbata*) and buffel grass (*Cenchrus ciliaris*).

3.1.2 Probable Impacts

There is little of botanical interest or concern on the project site as the majority of the site has been disturbed by agricultural activities. The greatest botanical impact that will occur as a result of the proposed project is the loss of the sugar cane. The development should not have a significant negative impact on the total island populations of the species involved as they occur in similar lowland situations throughout the islands.

3.1.3 Mitigation Measures

Due to the lack of expected significant impacts due to removal of the vegetation, no special precautions need be taken. Areas that require landscaping could be landscaped with easy to grow, hardy, native lowland species such as wiliwili (*Erythrina sandwicensis*), nehe, "alahe'e (*Canthium odoratum*), pa'u-o-Hi'iaka (*Jacquemontia ovalifolia*), etc. These plants are adapted to the local environmental conditions and would require less water and maintenance.

3.2 TERRESTRIAL FAUNA

3.2.1 Existing Conditions

Field Observations were made from 5 sites to survey fauna on the property. The following is based on field observations and consultation of similar surveys and guides (see Appendix G).

Resident Endemic (Native) Birds: No endemic birds were recorded during the actual survey.

Resident Indigenous (Native) Birds: The Black-crowned Night Heron or Aku'u (*Nycticorax*) was the only indigenous species found on the property

Migratory Indigenous (Native) Birds: Pacific Golden Plover (*Pluvialis fulva*) prefers open areas for foraging such as exposed inter tidal habitats, plowed fields and lawns. A total of 4 plover were recorded during the field survey. These birds were observed on the plowed sugar cane field, along haul cane roads, flying over the property and beside ditches. Johnson et al. (1989) and Bruner (1983) have shown plover are extremely site-faithful on their wintering grounds (returning each day to the same spot and maintaining this behavior throughout their lifetime).

Seabirds: No seabirds were recorded on the property. No seabirds would be expected to nest on the project site.

Feral Mammals: Feral cats were seen during the survey. One Roof Rat (*Rattus rattus*) was also observed. Two small Indian Mongoose (*Herpestes auropunctatus*) were seen over the course of the survey. Without a trapping program it is difficult to conclude much about the relative abundance of rats, mice, cats and mongoose on this property, however, it is likely that their numbers are not dramatically different from what one would find elsewhere on Maui in similar habitat.

3.2.2 Probable Impacts

The present environment at the project site provides a fairly limited range of habitats which are utilized by the typical array of birds one would expect at this elevation and in this type of environment on Maui. The proposed development will effectively convert what is now a largely monoculture habitat of cultivated sugar cane to an urban light industrial environment. House sparrows (*Passer domesticus*) and House Finch (*Carposdacus mexicanus*) will undoubtedly increase in abundance when this site becomes more urban. The present habitat of sugar cane fields serves only as temporary foraging when the fields are plowed. Development would preclude this use to a certain extent.

3.2.3 Mitigation Measures

A 17+ acre off-site open space buffer, which will remain largely undeveloped land is located immediately south of the project site. This area will provide for protection, maintenance of wildlife currently habitating on the site. This protection and surrounding habitat will promote the continued use of the environment by various bird species. A newly landscaped park and golf course area in the HFDC project will provide habitat for the birds that presently occur on the project property. Also limited amounts of landscape buffer areas will provide some habitat on the project site.

4. HISTORICAL AND ARCHAEOLOGICAL RESOURCES

4.1.1 Existing Conditions

An archaeological inventory survey was conducted of the adjacent lands and land records of Land Commission Awards within the project area in accordance with the standards for inventory level survey as recommended by the Hawaii State Department of Land and Natural Resources, Historic Sites Section/State Historic Preservation Office (DLNR-HSS/SHPO), as part of the survey for the HFDC project in 1989. These standards are currently being used by Maui County Planning Department as guidelines for review and evaluation of archaeological inventory survey reports submitted in conjunction with various development permit applications. The standards are also used by the State Land Use Commission in evaluating boundary amendment petitions. As indicated in the letter from the DLNR-HSS-SHPO dated November 2, 1993 the proposed project will have no effect on significant historic sites Appendix H.

4.1.2 Probable Impacts There will be no effects on significant historic sites.

4.1.3 Mitigation Measures If at any time during the development or build out any historic sites are discovered, all appropriate agencies will be contacted and corrective measures will be implemented.

5. INFRASTRUCTURE

5.1 TRANSPORTATION FACILITIES

5.1.1 Highways and Public Access

5.1.1.1 Existing Conditions

Honoapiilani Highway serves as the only improved surface transportation link between the Kapalua/Kaanapali/Lahaina areas in West Maui and the Wailuku/Kahului areas of central Maui

Traffic flows are described in terms of Levels of Service (LOS). Levels of Service are labeled A through F, reflecting best to worst conditions. For intersections without signals, LOS is an evaluation of gaps in major street traffic flow and a calculation of capacities available for left turns across oncoming traffic and for left and right turns onto a highway from a minor street. For intersections without signals, LOS A is little or no delay; LOS B is short delays; LOS C is average traffic delays; LOS D is long delays; LOS E is very long delays; and LOS F is a condition where traffic volume demand exceeds the capacity of the roadway, resulting in extreme delays with queuing that may cause severe congestion and affect other traffic movements at an intersection. For signalized intersections, the LOS definitions are close to those for unsignalized intersections. LOS is measured in terms of delay, with delay being a measure of driver discomfort, frustration, fuel consumption and lost travel time. For signalized intersections, LOS A is less than 5.0 seconds delay per vehicle; LOS B is 5.1 to 15.0 seconds delay per vehicle; LOS C is 15.1 to 25.0 seconds

per vehicle; and LOS F is delay in excess of 60 seconds per vehicle. With each increase in delay, for signalized intersections, there is also a corresponding effect on turning movements, passing capacity and ability and flow rates along the roadway. Complete descriptions of the LOS are included in Appendix H.

In the vicinity of the project site, Honoapiilani Highway is a state highway that is generally aligned in a north-south direction. It is the primary route that provides regional circulation through the West Maui region, linking Kapalua, Kaanapali and Lahaina with other regions around the island, including Kahului, Wailuku and Kihei. Honoapiilani Highway was recently widened from three to four lanes with two lanes in each direction. Public dedication of these improvements was in October 1989. The four-lane segment of the highway extends from Lahainaluna Road in Lahaina to Kaanapali Parkway in Kaanapali. North of Kaanapali, the highway is an improved two-lane arterial roadway with paved shoulders.

Fronting the project, Honoapiilani Highway is a four-lane arterial roadway that is signal controlled at its intersections and at the base of the project access road.

WMVG has based its traffic studies upon the intersection being constructed as the primary access into the proposed project. The road will begin with a signal at the intersection of Honoapiilani Highway and the Hawaii Omori Property. It should be noted, however, that the Lahaina Citizens Advisory Committee and the Maui County Planning Department have suggested this as a possible location for the connector road between the future Lahaina Bypass and the Honoapiilani Highway. Therefore, the applicant has taken care to align its access with this future possibility in mind.

Traffic counts were made specifically for the proposed project and augmented with those taken by the State Department of Transportation for the Lahaina Bypass Highway EIS and the HFDC EIS. Existing levels of service for the five critical intersections are LOS B or better during both the a.m. and p.m. peak hours.

5.1.1.2 Probable Impacts

The proposed project connector road to be intersected by the State Department of Transportation (DOT) Lahaina Bypass Highway will have positive impacts on the traffic conditions in the immediate area of the project. As envisioned by the various planning agencies the realignment of the connector road through the project will significantly reduce traffic congestion in the Kapunakea subdivision and the Villages of Leiali'i. However, until the Lahaina Bypass Highway is constructed (Figure 5), traffic generated by the proposed project will use the existing Honoapiilani Highway and the internal proposed connector road to be constructed as part of the proposed project.

In 1998, without the Lahaina Bypass Highway, the Honoapiilani Highway/proposed connector road intersection could be expected to operate at LOS B during the a.m. peak hour and at LOS D during the p.m. peak hour. The Honoapiilani highway/Kaniau Road intersection and the highway Front Street-Fleming Road intersection would operate at LOS A during the a.m. peak hour and at LOS C

during the p.m. peak hour. The Honoapiilani highway/Kapunakea Street intersection would operate at LOS A during the a.m. peak hour and at LOS D during the p.m. peak hour. The Honoapiilani highway/Lahainaluna Road intersection would operate at LOS C during the a.m. peak hour and LOS E during the p.m. peak hour.

In the year 2000, with the Lahaina Bypass Highway, the preceding intersections, with the exception of Kapunakea Street, would operate at LOS B or better during both the a.m. and p.m. peak hours. The Kapunakea Street intersection would operate at LOS A during the am peak hour and at LOS C during the p.m. peak hour. The highway/ proposed connector road intersection would operate at LOS C during the a.m. peak hour and at LOS C or better during the p.m. peak hour.

The construction of the Lahaina Bypass Highway, Alignment B (Figure 7) has been described in a separate environmental document (US Department of Transportation, Federal Highway Administration, 1989) and is planned to be constructed in three phases. In Phase 1 a two lane roadway will be constructed between Puamana and Kaanapali Parkway. Phase 2 will involve extending the two lane roadway from the Lahaina Civic Center area to North Kaanapali in vicinity of Lower Honoapiilani Road/Honoapiilani Highway intersection. Widening of the 2 lanes in Phases 1 and 2 to four lanes will be accomplished in Phase 3. Additional improvements consisting of widening the Bypass Highway between the Kapunakea Street and the Lahaina Civic Center may be necessary if Phase 3 of the Bypass Highway does not occur in a timely manner.

5.1.1.3 Mitigation Measures

Internal roadways serving the proposed project will be designed and constructed in accordance with applicable state and county standards implementing, wherever possible, recommendations of our traffic consultant.

The following roadway improvements are part of the Department of Transportation, Maui County Transportation Master Plan and would further mitigate traffic impacts in a time and manner determined appropriate to serve the proposed project and surrounding area.

- The Lahaina Bypass Highway should be constructed between Puamana and Honokowai by the Year 2001, as planned by State DOT.
- Northbound Honoapiilani Highway should be widened to provide an exclusive right turn lane at the Project Access Road by the Year 2000.
- Southbound Honoapiilani Highway should be widened to provide an exclusive left turn lane at the Project Access Road.
- The Project Access Road at Honoapiilani Highway should be improved to provide separate left turn and right turn lanes and an optional left turn/through/right turn lane by the Year 2000.

5.2 ELECTRICAL POWER AND COMMUNICATIONS

5.2.1 Existing Conditions

There is a 69 KVA high voltage transmission line along the westerly boundary of the property. In addition, there are overhead electrical and telephone distribution lines on Honoapiilani Highway. The nearest electrical substation is on the south side of Lahainaluna Road across the street from Pioneer Mill.

5.2.2 Probable Impacts

There will be no adverse impacts on the immediate or regional electrical transmission systems.

5.2.3 Mitigation Measures

Electrical and telephone trunk lines will be extended underground from Honoapiilani Highway along the shoulders of the access road or as recommended by appropriate agencies. The on site distribution system for these facilities will also be placed underground in accordance with the Maui County Code.

6. PUBLIC FACILITIES/COMMUNITY SETTING

6.1 COMMUNITY CHARACTER

The vast majority of lands in West Maui are either State designated "Conservation" or "Agricultural". Generally, "Conservation" lands occupy the higher elevations, while the "Agricultural" district spans the middle ground.

"Urban" designated lands, then, are left to occupy the lower elevations along the coast. The communities of Kahana-Napili-Kapalua and Kaanapali contain Community Plan designations reflective of their resort nature. Lahaina, meanwhile, is more typical of a residential community. Single-family, business, light industrial and agricultural zones prevail in Lahaina.

A key feature of the region is the town of Lahaina, which between Shaw Street and Pupakea Street, makai of the Honoapiilani Highway is designated a National Historic Landmark as the one-time whaling capital of Hawaii. Today, it is the visitor industry that defines Lahaina Town and other coastal resort communities of West Maui.

Part of West Maui's attraction can be attributed to its year-round dry and warm climate, complimented by many white-sand beaches and scenic landscape. Most all of the visitor accommodations are located in the resort communities of Kaanapali, Kahana, Napili and Kapalua as well as Lahaina. The State-owned and operated Kapalua-West Maui Airport at Mahinahina conveniently links the region to Oahu and other neighbor Islands.

Sugarcane and pineapple fields occupy much of the land in the area. Pioneer Mill, a sizable portion of the region's economy, is the State's smallest sugar plantation with approximately 6,700 acres in cultivation. Maui Land and Pineapple Company's fields sprawl along the slopes of the West Maui Mountains north of Kaanapali.

6.2 POPULATION

The resident population of the region surrounding the project site has increased dramatically in the last two decades. Population gains were especially pronounced in the 1970s as the rapidly developing visitor industry attracted many new residents. According to The State of Hawaii Data Book, 1992, the resident population of the Lahaina District was 14,574. A projection of the resident population for the years 2000 and 2010 is approximately 18,737 and 22,924, respectively (Community Resources, Inc., 1994).

6.3 ECONOMY

The economy of Maui is heavily dependent upon the visitor industry. The dependency on the visitor industry is especially evident in West Maui, which has emerged as one of the State's major resort destination areas.

Agriculture is another vital component of the West Maui economy. Sugar operations are handled by the Pioneer Mill Co., Ltd. In 1988, Pioneer Mill produced 47,500 tons (16.2 percent of Maui's total) and employed 275 people (PBR Hawaii, 1993). Given the declining fiscal viability of sugarcane production, Pioneer Mill is also testing other crops, including coffee, to supplement its sugar production (Maui News Supplement, July 1990).

Maui Land and Pineapple Company's fields remain an important component of the region's agricultural base. In 1988, Maui Land and Pineapple Company entered the fresh fruit market, air shipping pineapples to the mainland in an effort to diversify its operations.

Maui County's unemployment rate after the first four (4) months of 1994 was approximately 5.9% (Telephone conversation with DBEDT, Research and Statistics Division employee, Manuel Fraganta, June, 1994).

6.4 POLICE AND FIRE PROTECTION

The project site is within the Lahaina Police Station service area, which services all of the Lahaina district. The Lahaina Station is located in the Lahaina Civic Center complex at Wahikuli, and was built in the early 1970s. The Lahaina Patrol includes 52 full-time personnel, consisting of one (1) captain, two (2) lieutenants, seven (7) sergeants, and 34 police officers. The remaining eight (8) personnel consist of public safety aides and administrative support staff.

Fire prevention, suppression and protection services for the Lahaina District is provided by the Lahaina Fire Station, also located in the Lahaina Civic Center, and the Napili Fire Station, located

in Napili. The Lahaina Fire Station includes an engine and a ladder company, and is staffed by twenty-nine (29) full-time personnel. The Napili Fire Station consists of an engine company including sixteen (16) full-time fire fighting personnel (Maui News Supplement, October 10, 1994).

6.5 MEDICAL FACILITIES

The only major medical facility on the Island is Maui Memorial Hospital, located approximately twenty-five (25) miles from Lahaina, midway between Wailuku and Kahului. The 145-bed facility provides general, acute and emergency care services.

In addition, regular hours are offered by the Maui Medical Group, Lahaina Physicians, West Maui Healthcare Center and Kaiser Permanente Medical Care Program.

6.6 RECREATIONAL FACILITIES

West Maui is served by numerous recreational facilities offering diverse opportunities for the region's residents. There are numerous County and State recreational areas in West Maui. Approximately one-third of the County parks are situated along the shoreline and are excellent swimming, diving and snorkeling areas. Kaanapali Beach, a large white-sand beach, is located approximately three (3) miles north of the project site and is a popular area for swimming, diving and sunbathing. Popular surfing spots include Fleming Beach, Honolua Bay and Rainbows. In addition, Kaanapali and Kapalua Resorts operate world-class golf courses which are available for public use.

6.7 SCHOOLS

The State of Hawaii, Department of Education operates four (4) public schools in West Maui. they are (with official 1993 enrollment in parenthesis): Lahainaluna High School (779), Lahaina Intermediate School (552), King Kamehameha III Elementary School (819) and Princess Nahienaena Elementary School (471) (Telephone conversation with Aileen Shirota, Department of Education, February, 1994). All of the public schools are located within the Lahaina Town area. The West Maui region is also served by privately operated preschools and elementary schools.



**Relationship of the Proposed Action
to Maui County Plans, Policies and Controls
for the Affected Area**

CHAPTER III

RELATIONSHIP OF THE PROPOSED ACTION TO LAND USE PLANS, POLICIES AND CONTROLS FOR THE AFFECTED AREA

INTRODUCTION

The applicable governmental land use plans, policies and controls affecting the proposed project include Maui County General Plan; the Lahaina Community Plan; and Maui County Zoning Chapter 205 (HRS) Land Use Commission Rules (Title 15, Subtitle 3, Chapter 15), the Hawaii State Plan and State Functional Plans for Agriculture, Conservation Lands, Employment, Energy, Health, Historic Preservation, Housing, Human Resources, Recreation, Tourism, Transportation and Water Resources Development;. The proposed project's relationship to these plans, policies and controls is described in the sections that follow. Following receipt of all necessary permits and approvals (see Chapter I, Section 11.0), the proposed project would be consistent with the above noted plans and land use controls.

MAUI COUNTY PLANS AND CONTROLS

MAUI COUNTY SPECIAL MANAGEMENT AREA

The proposed project is outside the Special Management Area. As such, the Maui County Special Management Area provisions do not apply.

MAUI COUNTY GENERAL PLAN

The Maui County General Plan is the policy document for the long-range comprehensive development of the island of Maui and provides direction for balanced growth of the County. The Plan contains objectives and policies in the areas of land use, environments, economic, urban design, public utilities and facilities and recreation and culture.

The proposed project generally implements the objectives of the County General Plan as follows:

Population Objective A: To manage the planned growth of the resident and visitor populations in order to avoid social, economic, and environmental disruptions.

Land Use Objective A: To use the land within the County for the social and economic betterment of the County's residents.

Land Use Objective B: To preserve existing lifestyles through the careful and effective use of land.

Housing Objective A: To make available attractive, sanitary, and affordable homes for all County residents.

Urban Design Objective A: To encourage all developments to be well designed and in harmony with the environment in which they will be allocated.

Special Programs Objective A: To create a community in which the needs of all segments of the population will be recognized and met.

General Objective A: To achieve stabilization, expansion, and diversification of the County's economic base.

Transportation Objective A: To support a transportation system which will enable people and goods to move safely, efficiently, and economically.

Water Objective A: To provide adequate quantity and quality of water to meet the needs of the people of Maui County.

Water Objective B: To make more efficient use of existing supplies of water.

Public Utilities and Facilities Objective A: To provide public utilities and facilities which will effectively meet community needs.

Response: Development of the project will result in a reasonable use of the land in keeping with the adjoining urbanized commercial and residential areas. Natural topographic features, visual resources, potential hazards and other features have been evaluated during the design process. Both the general and transportation objectives will be achieved through the provision of jobs associated with project construction, and economic benefits derived from efficiencies gained from the investment of new transportation infrastructure. The proposed project has been planned to be in concert with the overall population, land use, environmental, economic, urban design and recreation and culture objectives of the plan. The project would be developed in a manner that would avoid social, economic and environmental disruptions; it would use land for the social and economic betterment of the county's residents; it is a judicious use of the county's resources on Maui and would assist in the diversification of the county's economic base; it will be designed to be in harmony with the surrounding environment;

MAUI COUNTY ZONING

The site is presently zoned as agriculture. This change in zoning supports the recommendations of the Lahaina Citizens Advisory Council, the Maui Planning Commission (under the proposed community plan) and the Maui County Planning Department

PLANS OF NEARBY COMMUNITIES

LAHAINA COMMUNITY PLAN

The proposed project will assist in accomplishing the recommendations of the plan relating to economic activity, agriculture, population, environment, land use, urban design and support systems of the Lahaina community and the proposed Lahaina Community Plan.

CHAPTER 205 (HRS) LAND USE COMMISSION RULES

Land Use District Boundary Amendment

Chapter 205, Hawaii Revised Statutes (HRS), establishes the State Land Use Commission (LUC) and provides this body with the authority to designate all lands in the State as within either the Urban, Rural, Agricultural, or Conservation District. The majority of the project area is currently designated by the LUC as within the State Agricultural District. Consequently, a Land Use District Boundary Amendment (LUDBA) is necessary to reclassify the Agriculture designated property from the Agricultural District to the State Urban District to permit the proposed development.

In its review of the proposed reclassification, Chapter 205-17, Hawaii Revised Statutes, mandates that the Commission shall specifically consider (1) the Hawaii State Plan, (2) the applicable district standards, and (3) the impact of the proposed reclassification on the following areas of State concern: maintenance of important natural systems, cultural or natural resources, commitment of State funds, provision for employment opportunities, and provision for affordable housing.

Consideration of these criteria are also embodied in the LUC Administrative Rules, Chapter 15-15, Hawaii Administrative Rules, Subchapter 2. More specifically, the following "Standards for determining urban district boundaries" as set forth in Section 15-15-18, Hawaii Administrative Rules, are applicable to the proposed reclassification as follows:

Section 15-15-18 Standards for determining "U" urban district Boundaries.

In determining the boundaries for the "U" urban district, the following standards shall be used:

It (urban district) shall include lands characterized by "city like" concentrations of people, structures, streets, urban level of services and other related land uses.

(A) Proximity to centers of trading and employment except where the development would generate new centers of trading and employment.

(B) Substantiation of economic feasibility by the petitioner.

(C) Sufficient reserve areas for urban growth in appropriate locations based on a 10 year projection.

It shall include lands with satisfactory topography and drainage and reasonably free from the danger of floods, tsunamis, unstable soil conditions, and other adverse environmental effects.

In amending the boundary, land contiguous with existing urban areas shall be given more consideration than non-contiguous land, and particularly when indicated for future urban use on State or County general plans.

It shall not include lands, the urbanization of which will contribute toward scattered spot urban development, necessitating unreasonable investment in public infrastructure or support services.

- **Response:** The proposed project area is adjacent to Lahaina, one of Maui's fastest growing regions. Population projections for the project, when combined with the existing population base, will clearly establish the area as a "city like" concentration of activities. Although significant centers of trading and employment exist in the Lahaina and West Maui environs, the proposed project will generate new opportunities for economic growth of this kind. Site selection has been carefully considered to mitigate potential problems associated with future urban growth needs, topography, and contiguous integration with existing urban development. Further, the project borders urban land on three sides and open space land on its' fourth side. Site selection is in conformance with plans recommended by the Lahaina CAC, the County of Maui Planning Department, and the proposed Lahaina Community Plan.

COASTAL ZONE MANAGEMENT ACT (CHAPTER 205-A, HRS)

The objectives of the Hawaii Coastal Zone Management (CAM) Program, as set forth in Chapter 205A (HRS), include the protection and maintenance of valuable coastal resources. The proposed project is outside the coastal zone management area of Maui and the project will not affect the coastline of Maui.

HAWAII STATE PLAN (REVISED 1986)

The Hawaii State Plan (Chapter 226, Hawaii Revised Statutes, as amended and approved May 29, 1986), establishes a set of goals, objectives and policies that are to serve as long-range guidelines for the growth and development of the state. The plan is divided into three parts. Part I (Overall Theme, Goals, Objectives and Policies); Part II (Planning, Coordination and Implementation); and Part III (Priority Guidelines). Part II elements of the State Plan pertain primarily to the administrative structure and implementation process of the Plan. As such, comments regarding the applicability of this part to the proposed project are not appropriate. The following sections of the Hawaii State Plan are directly applicable to the proposed project:

Part I. Overall Theme, Goals, Objectives and Policies

The Hawaii State Plan lists three "Overall Themes" relating to: (1) Individual and family self-sufficiency; (2) Social and economic mobility; and (3) Community or social well-being (Section 226-3 (1-3)). These themes are viewed as "basic functions of society" and goals toward which government must strive. To guarantee the elements of choice and mobility embodied in the three themes, three goals were formulated (Section 226-4 (1.3)):

A strong, viable economy, characterized by stability, diversity and growth that enables fulfillment of the needs and expectations of Hawaii's present and future generations.

A desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems and uniqueness, that enhances the mental and physical well-being of the people.

Physical, social and economic well-being, for individuals and families in Hawaii, that nourishes a sense of community responsibility, of caring and of participation in community life.

Response: The proposed project would contribute to the attainment of the three goals. The project would provide direct long-term employment opportunities for the present and future residents of Maui in general and specifically the West Maui area; the proposed project would generate increased state and county tax revenues; the project would contribute to the stability, diversity and growth of local and regional economies; and the archaeological, historic and natural site features, if any, would be protected. Key elements of the proposed project relative to the above noted goals are that the proposed project would provide increased business ownership opportunities for present and future residents in various income levels; that it would provide to these opportunities more efficient distribution, storage and servicing facilities in a planned setting wherein environmental protection provisions can be effectively, efficiently and economically controlled. The proposed project would enhance the sense of community responsibility and participation.

Specific objectives, policies and priority directions of the State Plan most relevant to the proposed project are discussed below. Note, objectives and policies not listed are those that are not applicable to the proposed project.

Section 226-5 Objectives and Policies for Population

Objective:

To guide population growth to be consistent with the achievement of the physical, economic and social objectives of the state.

Policies:

(1) Manage the population growth statewide in a manner that provides increased opportunities for Hawaii's people to pursue their physical, social and economic aspirations while recognizing the unique needs of each county.

(2) Encourage an increase in economic activities and employment opportunities on the Neighbor Islands consistent with community needs and desires.

(3) Promote increased opportunities for Hawaii's people to pursue their socioeconomic aspirations throughout the state.

Response: Rapidly increasing population levels in the West Maui area are presently a concern to both state and county planners. The proposed project has the effect of providing the impetus to compliment, improve and upgrade public facilities and services and allow West Maui residents greater opportunities to pursue fundamental socioeconomic aspirations. The Lahaina Business Park project is expected to provide long-term economic and employment opportunities for business servicing residential communities, distribution, storage, tourist industry, nurseries, retailers, offices, etc. The development will also contribute to the overall growth of the Lahaina area in a well-planned manner that is consistent with the community's desires and needs as demonstrated in the marketing studies performed for the project.

Objectives and Policies for the Economy - General

Objectives:

(1) To increase and diversify employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawaii's people.

(2) A steadily growing and diversified economic base that is not overly dependent on a few industries.

Policies:

(1) Strive to achieve a level of construction activity responsive to, and consistent with, state growth objectives.

(2) Foster greater cooperation and coordination between the public and private sectors in developing Hawaii's employment and economic growth opportunities.

(3) Stimulate the development and expansion of economic activities which will benefit areas with substantial or expected employment problems.

(4) Maintain acceptable working conditions and standards for Hawaii's workers.

(5) Encourage businesses that have favorable financial multiplier effects within Hawaii's economy.

Response: The development will elevate living standards for Hawaii's people through job opportunities and provided by a period of construction activity in the West Maui area that would closely follow and/or be concurrent with the construction of new tourism related facilities, thereby ensuring local construction workers continued employment as well as provide employment opportunities for other types of construction trades, and meeting the needs of the community without creating an over supply. Adoption of the requested land use approvals would allow the proposed project to be consistent with state growth objectives. The project can only be achieved with the continued cooperation and coordination between the state and county governments and would foster cooperation and coordination opportunities in an area that already serves as an employment center. The development of the proposed project would also increase the opportunities to residents and businesses that would service the project; and provide a climate conducive to the stimulation of the development of new and expansion of existing businesses. Chapter 209E, HRS established criteria for the Enterprise Zones Program. Lahaina and West Maui have been designated qualified areas, and the Lahaina Business Park meets all the criteria for designation of an Enterprise Zone Area. The development is in the process of applying for Enterprise Zone designation and when approved will provide tax and investment incentives to the small and medium size new businesses that the project will attract. The included marketing study indicates the project will employ about 600 people when built out and fully occupied.

Objectives and policies for the economy - agriculture

Objective:

Planning for the State's economy with regard to agriculture shall be directed toward achievement of the following:

- (1) Continued viability in Hawaii's sugar and pineapple industries.
- (2) Continued growth and development of diversified agriculture throughout the state.

Policies:

Assure the availability of agriculturally suitable lands with adequate water to accommodate present and future needs.

Response: A majority of the project site is intensively utilized for production of sugar cane. Development of the project will result in the loss of approximately 37 acres of agricultural land. However, based on the analyses performed for HFDC , Villages of Leiali'i project adjacent to the subject property; the analyses performed for the AMFAC Puukoliu Village project and numerous other agricultural studies conducted over the past ten years have all conclude that the reduction in agricultural acreage for the use of other alternatives is not significantly impacting Hawaii's sugar industry, nor the availability of agriculturally suitable lands with adequate water. The extracting of this 37 acres will not adversely impact the agricultural industry of the state, and in fact, will be a more suitable neighbor to the planned HFDC development.

Objectives and policies for the economy - potential growth activities

Objective:

Planning for the State's economy with regard to potential growth activities shall be directed towards achievement of the objectives of development and expansion of potential growth activities that serve to increase and diversify Hawaii's economic base.

Policies:

- (1) Facilitate investment and employment in economic activities that have the potential for growth such as diversified agriculture, aqua-culture, apparel and textile manufacturing, film and television production and energy and marine-related industries.
- (2) Expand Hawaii's capacity to attract and service international programs and activities that generate employment for Hawaii's people.
- (3) Enhance and promote Hawaii's role as a center for international relations, trade, finance, services, technology, education, culture and the arts.
- (4) Promote Hawaii's geographic, environmental, social and technological advantages to attract new economic activities into the state.
- (5) Provide public incentives and encourage private initiative to attract new industries that best support Hawaii's social, economic, physical and environmental objectives.

Response: The proposed project would assist in the achievement of the above state objectives and policies by providing employment and business opportunities for all income levels in an area that presently serves growth inducing industries (tourism and recreation); and, through the provision of employment opportunities close to housing, will support the surrounding residential communities and provide the impetus for the creation of new businesses and support businesses to service the community. Granting of the requested land use change and future zoning permit requests would represent a strong public incentive required to encourage private enterprise and new business, thereby supporting the State's social, economic, physical and environmental objectives.

Objectives & policies for the physical environment - scenic, natural beauty and historic resources.

Objective:

Planning for the State's physical environment shall be directed towards achievement of the objective of enhancement of Hawaii's natural beauty, and multi-cultural/historical resources.

Policies:

- (1) Promote the preservation and restoration of significant natural and historic resources.

- (2) Provide incentives to maintain and enhance historic, cultural and scenic amenities.
- (3) Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.
- (4) Protect those special areas, structures, and elements that are an integral and functional part of Hawaii's ethnic and cultural heritage.
- (5) Encourage the design of developments and activities that complement the natural beauty of the islands.

Response: The project will be planned and designed to maintain and/or enhance remaining natural features of the site. The landscaped component of the project would provide a means for the development to accommodate and be complemented by the surrounding environment.

Objectives and policies for the physical environment -land, air and water quality.

Objectives:

Planning for the State's physical environment with regard to land, air and water quality shall be directed towards achievement of the following objectives:

- (1) Maintenance and pursuit of improved quality in Hawaii's land, air and water resources.
- (2) Greater awareness and appreciation of Hawaii's environmental resources.

Policies:

- (1) Foster educational activities that promote a better understanding of Hawaii's environmental resources.
- (2) Promote the proper management of Hawaii's land and water resources.
- (3) Promote effective measures to achieve desired quality in Hawaii's surface, ground and coastal waters.
- (4) Reduce the threat to life and property from erosion, flooding, tsunamis, hurricanes, earthquakes, volcanic eruptions, and other natural or man-induced hazards and disasters.
- (5) Encourage design and construction practices that enhance the physical qualities of Hawaii's communities.
- (6) Encourage urban developments in close proximity to existing services and facilities.

(7) Foster recognition of the importance and value of land, air and water resources to Hawaii's people, their cultures and visitors.

Response: The proposed project has been planned and designed, and would be constructed in such a manner that the land and water resources of the area can be managed in an environmentally compatible and beneficial manner and foster the recognition of the importance and value of the area land, air and water resources to Hawaii's people, their cultures and visitors.

The project site is situated between urbanized areas of the Villages of Leiali'i and Lahainaluna. Design and construction will both take advantage of the existing aesthetic quality of the area while enhancing utilitarian value of Maui's second largest community outside of the Wailuku-Kahului urban area.

Objectives and policies for facility systems - transportation.

Objectives:

Planning for the State's facility systems with regard to transportation shall be directed towards the achievement of the following objectives:

- (1) An integrated multi-modal transportation system that services statewide needs and promotes the efficient, economical, safe and convenient movement of people and goods.
- (2) A statewide transportation system consistent with planned growth objectives throughout the State.

Policies:

- (1) Coordinate state, county, federal and private transportation activities and programs toward the achievement of statewide objectives.
- (2) Encourage a reasonable distribution of financial responsibilities for transportation among participating governmental and private parties.
- (3) Encourage transportation systems that serve to accommodate present and future development needs of communities.
- (4) Development of transportation systems and programs which would assist statewide economic growth and diversification.
- (5) Encourage design and development of transportation systems sensitive to the needs of affected communities and the quality of Hawaii's natural environment.

Response: The proposed project is consonant with on-going and planned State sponsored highways on Maui; is being planned to accommodate the proposed Honoapiilani Bypass Highway and future roadway development in West Maui; assists in promoting statewide economic growth and diversification; and is being designed to be sensitive to the needs of the community and quality of the area's natural environment. Additionally the Lahaina Citizens Advisory and the Maui Planning Department have recommend the Kapunakea connector road between the bypass and Honoapiilani Highway be redirected to dissect the proposed development. This would significantly reduce the traffic movement and congestion in the Villages at Lei'ali'i. The project supports this recommendation and is working with the surrounding landowners, Hawaii Omori, HFDC and the Department of Transportation to accommodate this recommended change.

Economic Priority Guidelines

Priority guidelines to stimulate economic growth and encourage business expansion and development to provide needed jobs for Hawaii's people and achieve a stable and diversified economy.

(1) Seek a variety of means to increase the availability of investment capital for new and expanding enterprises.

Priority guidelines to promote the economic health and quality of the visitor industry.

(1) Promote visitor satisfaction by fostering an environment which enhances the Aloha Spirit and minimizes inconveniences to Hawaii's residents and visitors.

Priority guidelines for energy use and development.

(1) Provide incentives to encourage the use of energy conserving technology in residential, industrial and other buildings.

Response: The proposed project would assist in meeting the above stated guidelines by allowing private investment in the project that would assist in expanding existing businesses, facilitate the creation of new business that serve residential communities and the surrounding tourist industries as well as provide the impetus for new businesses that services an expanded market. The proposed project would also aid in the establishment of the energy related guidelines to promote energy conservation measures. The establishment of the project as an Enterprise Zone Area would greatly support and enhance the small and medium size businesses.

Population Growth and Land Resources Priority Guidelines

Priority guidelines to effect desired statewide growth and distribution:

(1) Encourage planning and resource management to insure population growth rates throughout the State that are consistent with available and planned resource capacities and reflect the needs and desires of Hawaii's people.

(2) Manage a growth rate for Hawaii's economy that will parallel future employment needs for Hawaii's people.

(3) Encourage major state and federal investments and services to promote economic development and private investment to the neighbor islands, as appropriate.

Priority guidelines for regional growth distribution and land resource utilization.

(1) In order to preserve green belts, give priority to state capital-improvement funds which encourage location of urban development within existing urban areas except where compelling public interest dictates development of a non-contiguous urban core.

(2) Seek participation from the private sector for the cost of building infrastructure and utilities and maintaining open spaces.

(3) Utilize Hawaii's limited land resource wisely, providing adequate land to accommodate projected population and economic growth needs while ensuring the protection of the environment and the availability of the shoreline, conservation lands and other limited resources for future generations.

Response: The nature of the project will support existing population and future populations. The proposed project would comply with and assist in the achievement of the above stated population growth and land resources priority guidelines and objectives. Phasing of the development will allow the supply of sites to more closely follow demand. The proposed development would provide employment opportunities paralleling future employment needs; encourage private investment on a neighbor island; and profitably utilize lands for urban uses. Infrastructure components required by and for the project would be provided by the developer at little or no cost to the State.

STATE FUNCTIONAL PLANS

The Hawaii State Plan directs the appropriate state agencies to prepare functional plans for their respective program areas. There are fourteen State Functional Plans that serve as the primary implementing vehicle for the goals, objectives and policies of the Hawaii State Plan. The following sections of the listed State Functional Plans are directly applicable to the proposed project.

State Historic Preservation Functional Plan (1984)

The objectives, policies and implementing actions of the State Historic Preservation Functional Plan are directed toward state agencies, primarily the Department of Land and Natural Resources, Historic Sites Section (DLNR-HSS). The archaeological resources at the project site have been surveyed and evaluated by DLNR-HSS. There are no known existing archaeological resources on the project site that would require any mitigation measures. Care will be taken to properly preserve

archaeological sites discovered during construction, until mitigation measures can be determined and implemented.

State Human Services Functional Plan (1989)

The State Human Services Functional Plan identifies elderly care, children and family support, self-sufficiency and service delivery improvements as the priority issues of the Human Services Plan. The objectives, policies and implementing actions of the plan are directed toward state and county agencies for accomplishment. In general, the proposed project is in concert with the basic philosophy of the Human Services Functional Plan in that it will assist, through the provision of employment opportunities, for families in achieving economic and social self-sufficiency.



Lahaina
BUSINESS PARK

Summary of Adverse Environmental Effects Which Cannot Be Avoided

CHAPTER IV

SUMMARY OF ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

The proposed construction of the project will result in unavoidable construction-related impacts as described in Chapter II of this report. These include construction noise and dust impacts that will invariably occur during the period of construction. Efforts will be made to minimize construction impacts by utilizing sheathing and fencing to confine noise and dust to the immediate area under construction. Night work will also be explored in selected situations to minimize impacts upon businesses and the general public.

There are no anticipated significant long-term adverse environmental effects as a result of the project.



Alternatives to the Proposed Action

CHAPTER V

ALTERNATIVES TO THE PROPOSED ACTION

Alternatives to the proposed action are noted below.

A. DEVELOPMENT OF RESIDENTIAL HOUSING, MULTIFAMILY OR HOTELS

This alternative would be in conflict with the Lahaina Citizens Advisory Committee, the Maui County Planning Department and the Maui County Planning Commission's recommendations of converting the land to M-1 Light Industrial.

B. NO ACTION ALTERNATIVE

The no action alternative would allow a 37.7 acre remnant piece of agricultural land to be completely surrounded by urban designated land.



Findings and Conclusions

CHAPTER VI
FINDINGS AND CONCLUSIONS

This environmental assessment conforms to all of the laws and requirements of the Office of Environmental Quality Control.

The project will involve temporary impacts involved with construction activities.

From a long-term perspective, the project is not anticipated to result in adverse environmental impacts. there are no rare, threatened or endangered species of flora and fauna found at the project site. The project will not adversely impact air and noise characteristics in the immediate neighborhood and will not encroach on any significant scenic view corridors. The project is also located on lands designated as areas of minimal flooding.

There are no surface archaeological materials present at the site. Should any cultural materials be found during construction, work in the immediate vicinity will be halted and the State Historic Preservation Office will be notified.

The project will also be compatible to the surrounding area.

There will be no adverse effects upon public services such as police, fire and medical services, are anticipated. No significant impacts upon traffic, water and wastewater facilities are anticipated.

The project is in conformance with the recommendations of the Lahaina Citizens advisory Council, the Maui County Planning Department and the proposed Lahaina Community Plan.

In light of the foregoing findings, it is concluded that the proposed action will not result in any significantly undesirable impacts.



Project Timetable

CHAPTER VII

PROJECT TIMETABLE

1995	Obtain Land Use Commission boundary amendments, rezoning from agriculture to M1 light industrial, and preliminary subdivision approval. Work on getting mauka makai collector road aligned through the development. During this period land will remain in sugar cultivation, and rock crushing the two of existing rock piles will be complete.
1996 to 1998	Phase I Subdivision complete, begin selling lots of Phase I.
1998 to 2000	80% of Phase I sold or leased. Phase I Lahaina Bypass completed.
2000 to 2002	Remaining 20% of Phase I sold or leased. Complete subdivision of Phase II and begin selling lots.
2002 to 2006	Phase II sold or leased.



**Agencies Contacted in the Preparation
of the Environmental Assessment
and Responses Received**

**AGENCIES CONTACTED IN THE PREPARATION OF THE
ENVIRONMENTAL ASSESSMENT AND RESPONSES RECEIVED**

The following agencies were contacted during the preparation of the Environmental Assessment:

Brian Miskae, Director
Department of Planning
County of Maui
250 South High Street
Wailuku, HI 96793

Gregory G. Y. Pai, Ph.D.
Director of Planning
Office of State Planning, State of Hawaii
P. O. Box 3540
Honolulu, HI 96811-3540

Charles Jencks, Director
Department of Public Works and Waste Management
County of Maui
200 South High Street
Wailuku, HI 96793

David Craddick, Director
Department of Water Supply
County of Maui
200 South High Street
Wailuku, HI 96793

Kenneth M. Kaneshiro
State Conservationist
U. S. Department of Agriculture
Natural Resources Conservation Service
P. O. Box 50004
Honolulu, HI 96850-0001

Herbert S. Matsubayashi
Acting Chief Sanitarian, Maui
State of Hawaii
Department of Health
54 High Street
Wailuku, Maui, HI 96793

Ray H. Jyo, P.E.
Director of Engineering - Planning Division
Department of the Army
U. S. Army Engineer District, Honolulu
Ft. Shafter, Hawaii 96858-5440

Terrell B. Kelley, Team Leader, Regulatory Branch
Department of the Army
U. S. Army Engineer District, Honolulu
Ft. Shafter, Hawaii 96858-5440

Brooks Harper, Field Supervisor, Ecological Services
Fish and Wildlife Services
Pacific Islands Ecoregion
300 Ala Moana Blvd., Room 6307
Honolulu, HI 96850

David Wissmar
Land Use & Codes
Solid Waste Division
250 South High Street
Wailuku, HI 96793

Don Hibbard, Administrator
State Historic Preservation Division
Department of Land & Natural Resources
33 South King Street, 6th Floor
Honolulu, HI 96813

Kazu Hayashida, Director of Transportation
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813-5097

John T. Harrison
University of Hawai'i at Manoa
Environmental Center
Crawford 317-2550 Campus Road
Honolulu, Hawaii 96822



**Comments Received During
Public Review Period
and Response Letters**

BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAII

In the matter of the Petition of)
WEST MAUI VENTURE GROUP)
To Reclassify approximately 37.742)
acres of land currently in the)
Agricultural District into the Urban)
District in order to develop a)
Commercial and light industrial)
subdivision at Lahaina, Maui, Hawaii)
Tax Map Key No.: 4-5-10: 7.)

Docket No. A94-710
WEST MAUI VENTURE GROUP

POSITION OF THE MAUI PLANNING DEPARTMENT

The Request

The petitioner is proposing to reclassify approximately 37.742 acres of land currently in the Agricultural District into the Urban District in order to develop the Lahaina Business Park, a 49 lot commercial and light industrial subdivision in Lahaina, Maui TMK 4-5-10: 7. Improved lots are proposed to be sold in fee simple or leased on a long-term basis.

The project is a ten year, two-phased development project. The first phase will consist of 22 light industrial acres with lots ranging in size from 1/4 to 5+ acres. Phase I will consist of a tenant mix that would accommodate both large and small businesses predominantly made up of automotive, flex space, offices, retail users, and restaurants.

Phase II construction will commence when Phase I is substantially absorbed. Phase II will be constructed and developed on the southern side of the property adjacent to the northern end of the Kahoma Flood Control Channel. Phase II will require the construction of a secondary roadway and consist of approximately 10 acres of usable space for the development of lots ranging in size from 1/2 to 4+ acres. Projected total absorption will be over a ten year period.

Petition Area

The petition area is bordered to the south by the Kahoma Stream Flood Control Channel and to the north by the Housing Finance and Development Corporation's Villages of Leiali'i affordable housing project. Directly makai of the project is approximately 27 acres of vacant land currently owned by Hawaii

DOCUMENT CAPTURED AS RECEIVED

DOCUMENT CAPTURED AS RECEIVED

Omori Corporation. This 27 acres is just mauka of the Lahaina Cannery Mall and is zoned M-1 Light Industrial.

The site slopes downward in a westerly direction, from an elevation of about +120 feet Mean Sea Level (MSL) at the northeast corner to about +30 Feet MSL along the cane haul road.

Agricultural Resources

The Detailed Land classification of the Land Study Bureau, University of Hawaii, rates soils according to five levels. About 16 percent of the site has soils rated "A", 40 percent rated "B", 33 percent rated "C", and 11 percent rated "E". None of the soils are rated "D".

Lahaina Community Plan

The current Lahaina Community Plan designates the property for Agricultural Use. However, in the comprehensive review of the Community Plan both the Citizens Advisory Committee for West Maui and the Maui Planning Commission recommended that the future land use designation for the property be amended to light industrial. The Maui Planning Commission took action on the plan on September 29, 1993. Their recommendation was transmitted to the Maui County Council for review and action on February 14, 1994. As of this date, the Council has not acted on the revised plan. The proposed project would conform with the proposed light industrial designation in the updated Community Plan.

Further in conjunction with this State District Boundary Amendment application, the owners have filed concurrent application for a Community Plan Amendment to Light industrial use and a Change in Zoning from the Agricultural District to the M-1 Light Industrial District.

Special Management Area

The petition area is outside of the Special Management Area (SMA) of the County of Maui and as such is not subject to the SMA Rules and Regulations.

Planning Department's Position

The Maui Planning Department supports the petition by West Maui Venture Group ("Petitioner") to reclassify approximately 37.742 acres of real property from the Agricultural to the Urban District at Tax Map Key Number 4-5-10:7, at Lahaina, Maui, Hawaii ("Property").

The proposed project will have impacts on County

infrastructure in the areas of drainage, water, sewage, and traffic. Our support of the proposed reclassification is subject to mitigation of the anticipated impacts.

We also have concerns relative to the lack of truly industrial uses proposed for the project especially in Phase I. We do not believe there is strong need for commercial properties in the Lahaina Area. We do however believe that there is a need for industrial uses and will require dedication of a percentage of the project for uses permitted only in the light industrial district.

We also are concerned with the project's impact on the nearby Kaanapali railroad and Pioneer Mill's cane haul road. As, these two features have historically existed and currently serve the Lahaina area, its operations should not be negatively impacted.

This position statement offers general comments on the petition and does not in any way address all concerns or conditions we may have. Our complete analysis and recommended conditions for this project will be available at the Land Use Commission's hearing.

APPROVED BY:


BRIAN MISKAE
Planning Director

DOCUMENT CAPTURED AS RECEIVED

DOCUMENT CAPTURED AS RECEIVED

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a copy of this position paper was served on the parties listed below by depositing the same in the United States Postal Service by certified mail, or by hand delivery, on January 12, 1995:

ESTHER UEDA, Executive Director
Land Use Commission
Old Federal Building
335 Merchant Street
Honolulu, Hawaii 96813 (Original and 15 copies) BY MAIL

GREGORY G.Y. PAI, Director
Office of State Planning
State of Hawaii
P.O. Box 3540
Honolulu, Hawaii 96811-3540 BY MAIL

ABE MITSUDA, Administrator
Land Use Division
Office of State Planning
State of Hawaii
Capitol Center, 2nd Floor
1177 Alakea Street
Honolulu, Hawaii 96813 BY MAIL

RICK EICHOR, ESQ.
Deputy Attorney General
Hale Auhau
425 Queen Street, Third Floor
Honolulu, Hawaii 96813 BY MAIL

ERIC MAEHARA, Esq.
Foley Maehara Nip and Chang
Grosvenor Center, Suite 2700
737 Bishop Street
Honolulu, Hawaii 96813 BY MAIL

J.P.SCHMIDT, Esq.
Corporation Counsel
County of Maui
200 South High Street
Wailuku, Maui, Hawaii 96793 HAND DELIVERY

MAUI ELECTRIC COMPANY
210 West Kamehameha Ave.
P.O. Box 398
Kahului, Hawaii 96732-0398 BY MAIL

SENT BY:FOLEY NIP CHANG

1-20-95 : 2:01PM :

FOLEY NIP CHANG-

8793779:# 9/ :

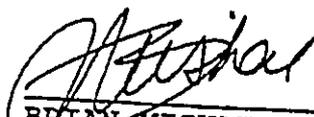
GTE HAWAIIAN TELEPHONE
1177 Bishop Street
Honolulu, Hawaii 96813

BY MAIL

PIONEER MILL CO., LTD.
380 Lahainaluna Road
P.O. Box 727
Lahaina, Hawaii 96767-0727

BY MAIL

Dated this 12th day of January, 1995, Wailuku, Hawaii.


BRIAN MISKAE
Director of Planning

DOCUMENT CAPTURED AS RECEIVED



Brian Miskae, Director
Department of Planning
County of Maui
250 South High Street
Wailuku, HI 96793

March 21, 1995

SUBJECT: Draft Environmental Assessment
for the West Maui Venture Group/Lahaina Business Park
TMK: 4-5-10:7

Dear Mr. Miskae:

Thank you for the opportunity to review and comment on our Land Use Commission Petition for Boundary Amendment/Draft Environmental Assessment for the Lahaina Business Park. I would also like to thank you for taking the lead in establishing communication with the Department of Transportation in regards to the realignment of the connector road.

We have reviewed your Position Statement and would like to outline the mitigation matters relative to your comments.

A. We will communicate and submit to the Planning Department all requirements in order to alleviate any concerns as they relate to drainage, water, sewer and traffic during the design phase of the project.

B. As previously discussed, we are currently anticipating constructing and developing the project in two phases. At your recommendation the direction of the phasing of the project will be done in a "horizontal" manner with portions of what was originally Phase I and portions of what was originally Phase II in the makai westerly section of the property being developed first as Phase I. We will continue working with your office and staff in order to designate appropriate areas of the project to be used as truly light industrial.

C. There is a recorded easement granting access rights to Pioneer Mill for the cane haul road. The easement contains language which does not allow the impediment of the cane haul traffic or the obstruction or creation of a hazardous situation during construction and upon full development of the property. Similarly there is an existing agreement between Hawaii Omori and the Kaaupali railroad. We will design our crossing to encompass applicable conditions set forth in said agreement.

P.O. BOX 220, KIHEI, HAWAII 96753



DOCUMENT CAPTURED AS RECEIVED

Brian Miskae, Director
Department of Planning
March 21, 1995
Page Two

Your input to the Environmental Assessment process is sincerely appreciated. If you have any questions, please feel free to call me at 874-0658.

Sincerely,



STEPHEN J. FULTON
Project Consultant

BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Petition of)
WEST MAUI VENTURE GROUP)
To Amend the Agricultural Land Use)
District Boundary into the Urban Land)
Use District for Approximately 37.7)
acres at Lahaina, Maui, Hawaii)
Tax Map Key: 4-5-10: 7)

DOCKET NO. A94-710

**STATEMENT OF POSITION
OF THE OFFICE OF STATE PLANNING
IN SUPPORT OF THE PETITION**

In accordance with 15-15-15 of the State Land Use Commission Rules, the Office of State Planning (hereinafter referred to as "OSP") recommends conditional approval of the petition by West Maui Venture Group, (hereinafter referred to as "Petitioner"), to reclassify approximately 37.7 acres, TMK: 4-5-10: 7, at Lahaina, Maui, Hawaii, (hereinafter referred to as "Property") from the Agricultural to the Urban Land Use District.

OSP's position for conditional approval is based on our review and analysis of the information presented in the petition.

The Petitioner proposes to develop a light industrial subdivision consisting of 22 individual lots ranging in size from 1/4 to 5 or more acres. The Property would be developed in two phases; Phase I with 22 acres and Phase II with 10 acres.

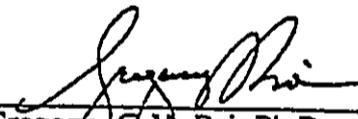
The project's light industrial use is consistent with the proposed update of the West Maui/Lahaina Community Plan and is being planned to accommodate the future growth of Lahaina. The petition area is bordered by vacant Urban land on three sides. The southern boundary abuts the Kahoma Stream flood control project. According to information obtained from the U.S. Army Corps of Engineers, the Kahoma Stream flood control project was completed in 1990 at a total cost of about \$15,876,459. The urban land makai of the site is traversed by a cane haul road and has

been zoned light industrial by the County of Maui, and approximately 1,120 acres of land to the north of the Property is being developed by the Housing Finance Development Corporation (HFDC) as the Villages of Leialii.

The reclassification of the project site from the Agricultural to the Urban Land Use District may impact the following areas of state concern: (1) traffic, (2) civil defense, (3) water quality and drainage, (4) agriculture, (5) noise and other impacts to existing and future residential areas. We also have questions about the market demand for the lots. OSP's position in support of the proposed ~~re~~classification is subject to the resolution of these issues.

This position statement does not attempt to address all aspects and concerns about the subject Petition. Other considerations will be addressed in OSP's prepared testimony for the State Land Use Commission hearing on Docket No. A94-710.

OFFICE OF STATE PLANNING
STATE OF HAWAII



Gregory G.Y. Pai, Ph.D.
Director of Planning

DOCUMENT CAPTURED AS RECEIVED

A94-710
CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing was served upon the following by either hand delivery or depositing the same in the U.S. Postal Service:

ERIC T. MAEHARA, Esq.
Foley, Machara, Nip & Chang
2700 Grosvenor Center
737 Bishop Street
Honolulu, Hawaii 96813

BRIAN MISKAE, Director
Planning Department
County of Maui
250 South High Street
Wailuku, Hawaii 96793

PLANNING COMMISSION
County of Maui
250 South High Street
Wailuku, Hawaii 96793

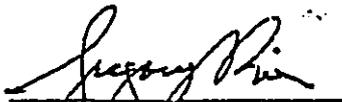
CORPORATION COUNSEL
County of Maui
200 South High Street
Wailuku, Hawaii 96793

MAUI ELECTRIC COMPANY
210 West Kamahameha Ave.
P.O. Box 398
Kahului, Hawaii 96732-0398

GTE HAWAIIAN TELEPHONE
1177 Bishop Street
Honolulu, Hawaii 96813

PIONEER MILL CO., LTD.
380 Lahainaluna Road
P.O. Box 727
Lahaina, Hawaii 96767-0727

DATED: Honolulu, Hawaii this 13th day of January, 1995.



Gregory G.Y. Pai, Ph.D.
Director
Office of State Planning
State of Hawaii



March 21, 1995

Gregory G. Y. Pai, Ph.D.
Director of Planning
Office of State Planning
State of Hawaii
P. O. Box 3540
Honolulu, HI 96811-3540

SUBJECT: Draft Environmental Assessment
for the West Maui Venture Group/Lahaina Business Park
TMK: 4-5-10:7

Dear Mr. Pai:

We have received a copy of your Statement of Position pertaining to the proposed project and would like to provide appropriate responses to your comments.

1. **TRAFFIC** - We will be working with Hawaii Omori, Department of Transportation, Hawaii Finance and Development Corporation and the Department of Public Works in order to satisfy all of the necessary traffic issues relative to this project. Additionally, we have begun communicating with Hawaii Omori, HFDC and the Department of Transportation in realigning the connector road between the proposed Lahaina Bypass and the Honoapiilani Highway.
2. **CIVIL DEFENSE** - We have communicated with the Office of Civil Defense and will satisfy any requirements they might have relative to this project.
3. **WATER QUALITY AND DRAINAGE** - We will adhere to and follow all federal, state and county requirements as they apply to these issues.
4. **AGRICULTURE** - As the testimony reflects in the Land Use Commission hearing, the removal of the property from agricultural use will not have any impacts on the Pioneer Mill's production of sugar.
5. **NOISE** - During the construction phase, we will implement noise reduction and dust impacts to the very minimum possibly. Efforts will be made to minimize construction impacts by utilizing sheathing and fencing to confine noise and dust to the immediate area under construction. ✓

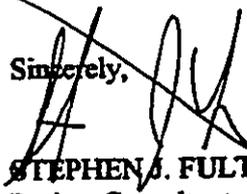
P.O. BOX 220, KIHEI, HAWAII 96753



Gregory G. Y. Pai, Ph.D.
Office of State Planning
March 21, 1995
Page Two

Your input to the Environmental Assessment process is sincerely appreciated. If you have any questions, please feel free to call me at 874-0658.

Sincerely,


STEPHEN J. FULTON
Project Consultant

LINDA CROCKETT LINGLE
Mayor
GEORGE N. KAYA
Director
CHARLES JENCKS
Deputy Director
AARON SHINMOTO, P.E.
Chief Staff Engineer



RALPH NAGAMINE, L.S., P.E.
Land Use and Codes Administration
EASSIE MILLER, P.E.
Wastewater Reclamation Division
LLOYD P.C.W. LEE, P.E.
Engineering Division
DAVID WISSMAR, P.E.
Solid Waste Division
BRIAN HASHIRO, P.E.
Highways Division

95 JAN 23 19:05
COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
AND WASTE MANAGEMENT

LAND USE AND CODES ADMINISTRATION
250 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793

January 19, 1995

MEMO TO: Brian W. Miskae, Planning Director

F R O M: Charles Jencks, Public Works & Waste Management Director

SUBJECT: Change in Zoning, Community Plan Amendment & Environmental
Assessment Applications
LAHAINA BUSINESS PARK
TMK: 4-5-010:007
94/CPA-08, 94/EA-12, 94/CIZ-16

We reviewed the subject application and have the following comments:

1. Comments from the Engineering Division:

- a. A final detailed master drainage and erosion control plan including, but not limited to, hydrologic and hydraulic calculations and scheme for controlling erosion and disposal of runoff water be submitted to the Department of Public Works, Engineering Division for our review and approval. The plan shall provide verification that the grading and runoff water generated by the project will not have an adverse effect on the adjacent and downstream properties. In addition, the developer shall contribute his pro-rata share to drainage improvements to be determined by the County and the drainage master plan. An agreement to the above prepared for filing with the State's Bureau of Conveyances shall be submitted by the applicant.
- b. Any discharges into Kahana Flood Control Channel must be approved by the U.S. Army Corps of Engineers and the County Department of Public Works & Waste Management, Engineering Division. An analysis based on a 100-year storm shall be submitted to verify the impact of the proposed project on the Kahoma Flood Control Channel.

Mr. Brian Miskae
Page 2 of 4
January 19, 1995
94/CPA-08, 94/EA-12 & 94/CIZ-16

- c. The applicant shall construct traffic improvements to be determined by the County and traffic master plans. The applicant shall submit a Traffic Master Plan for this development to be reviewed and approved by the Department of Public Works, Engineering Division prior to any subdivision of this parcel. An agreement to the above prepared for filing with the State's Bureau of Conveyances shall be submitted by the developer.
- d. A copy of the approved water quality report including project mitigation measures (acceptable to the State Department of Health) which evaluates the quality of the storm water discharging into the ocean receiving waters be provided to the County of Maui, Department of Public Works Engineering Division. The report should include a discussion on sediment and nutrient loadings at all drainage outlets.
- e. The 100-year flood inundation limits be shown on the project site plans. The applicant shall submit design drainage calculations to verify these inundation limits for review and approval by Department of Public Works Engineering Division.
- f. The proposed connector access road for this project traverses over private property owned by Hawaii Omori Corp.. The applicant shall submit documentation verifying that Hawaii Omori Corp. will allow the proposed access road for this project to Honoapiilani Highway be constructed.
- g. The project's Traffic Impact Analysis Report should be based on a 20 year plan, not five (year 2000) to thirteen (year 2008) years away.
- h. Lahaina Master Planned Community interchange is shown on the conceptual development plan, Figure 5. Verify with the State DOT that the spacing between the interchange and the subject project's proposed major collector is acceptable. No driveways should be allowed on the major collector, therefore, the subdivision should be reconfigured so access to the individual lots are only from sideroad connections.

Mr. Brian Miskae
Page 3 of 4
January 19, 1995
94/CPA-08, 94/EA-12 & 94/CIZ-16

- i. Since the improvements and extension of the the existing Kapunakea Street to the Lahaina Bypass Highway will severely impact the residential lots just mauka of Honoapiilani Highway, the proposed project's business, industrial, and commercial corridor should be the new E-W connector. This developer should propose a layout to address this concern and discuss the matter with the HFDC, State and County. Alignment needs to be established now in order to avoid impacts.
- j. An analysis should be made assuming the bypass is not constructed. Mitigation measures to address this concern should be included in the analysis.

The applicant is requested to contact the Engineering Division at 243-7745 for additional information.

2. Comments from the Wastewater Reclamation Division:

- a. The developer should be informed that any irrigation system installed shall be designed to convert to use of reclaimed water when it becomes available. The County is currently developing a reuse ordinance that will require commercial developments to utilize reclaimed water when a distribution system is installed.
- b. The developer should be informed that Wastewater Reclamation Division cannot insure that wastewater system capacity will be available.
- c. Provide discussion and calculations (sewer impact study) to substantiate that the existing wastewater system is adequate to serve this project.
- d. Wastewater contribution calculations are required before building permit is issued.
- e. Developer may be assessed impact fees for treatment plant expansion costs.
- f. Developer is required to fund any necessary off-site improvements to collection system and wastewater pump stations.

Mr. Brian Miskae
Page 4 of 4
January 19, 1995
94/CPA-08, 94/EA-12 & 94/CIZ-16

The applicant is requested to contact the Wastewater Reclamation Division at 243-7417 for additional information.

3. Comments from the Solid Waste Division:

- a. The owners and their contractors shall implement solid waste reduction, re-use and recycling programs to reduce the amount of solid waste to be disposed of at the County landfills.
- b. Alternative means of disposal of grubbed material and rock shall be utilized other than disposed of at the County landfills.
- c. Refuse collection shall be by a private collector.

The applicant is requested to contact the Solid Waste Division at 243-7875 for additional information.

4. Comments from the Land Use and Codes Administration:

This division has reviewed this submittal and has no comments at this time.

RMN:ey
xc: Engineering Division
Solid Waste Division
Wastewater Reclamation Division

g:\luca\all\czm\lahbus



Lahaina
BUSINESS PARK
A WEST MAUI VENTURE GROUP PROJECT

Charles Jencks, Director
Department of Public Works and Waste Management
County of Maui
200 South High Street
Wailuku, HI 96793

March 21, 1995

SUBJECT: Draft Environmental Assessment
for the West Maui Venture Group/Lahaina Business Park
TMK: 4-5-10:7

Dear Mr. Jencks:

Thank you for meeting with Jac Kean, Warren Unemori and myself last week to discuss your January, 1995 memorandum to Brian Miskae pertaining to the proposed project. We would like to provide a response to your comments.

We intend to work with the Department of Public Works and Waste Management (DPWWM) regarding all of the comments provided by your department. When available, a final detailed drainage and erosion control plan will be submitted to DPWWM, Engineering Division for review and approval. The plan will provide verification that the grading and runoff water generated by the project will not have any adverse affects on the adjacent and downstream properties. In addition, we will, by all means, contribute our pro rata share to the drainage improvements as determined by the County.

We are in communication with the U. S. Army Corps of Engineers and will be submitting all necessary permits and plans as required by the U. S. Army Corps of Engineers. As you will note in our Community Plan Amendment Request, a hundred year storm impact analysis was included in the request.

As agreed in our meeting, you have waived the requirement for us to submit a Traffic Master Plan. ✓

Prior to subdivision approval, we will submit to your office a Water Quality Report acceptable to the DPWWM and the State Department of Health. We will comply with all requirements of the Department of Health. We will comply with applicable NPDES procedures, including evaluation of the quality of storm water discharge, as required.

When our final project site plans are prepared, we will insure that the hundred year flood inundation limits will be included.

The applicant will provide your office with verification that Hawaii Omori will allow access across their property.

P.O. BOX 220, KIHEI, HAWAII 96753



Charles Jencks, Director
Department of Public Works
March 21, 1995
Page Two

As also discussed in our meeting with you, full build out of the project is anticipated to occur in the year 2008. This issue has been mitigated based upon your agreement that our Traffic Impact Analysis Report is acceptable to the year 2008 instead of a twenty year plan.

Warren Unemori, our project engineer, is working with Charlene Shibuya in order to reach an acceptable compromise on the driveway issues accessing the major collector road.

We will be meeting with Hawaii Omori, HFDC and the Department of Transportation in order to mitigate the proposed realignment of the proposed connector road.

As noted in our Community Plan Amendment and our Application for Change in Zoning, our traffic analysis was done assuming that the connector road does not dissect our property.

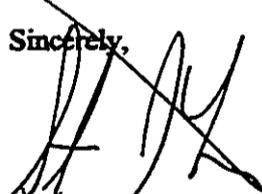
During the design phase and prior to final subdivision approval we will submit to your office detailed plans and drawings outlining an irrigation system that uses reclaimed water.

West Maui Venture Group will pay our fair pro rata share of any necessary offsite improvements to the wastewater collection system and pump stations. We also understand that we may be assessed impact fees for any future treatment plant expansion costs.

West Maui Venture Group submitted a solid waste management plan to your solid waste division on December 7, 1994. We received approval of our solid waste management plan on January 6, 1995.

Your input to the Environmental Assessment process is sincerely appreciated. If you have any questions, please feel free to call me at 874-0658.

Sincerely,


STEPHEN J. FULTON
Project Consultant

DOCUMENT CAPTURED AS RECEIVED



BOARD OF WATER SUPPLY 49:53
COUNTY OF MAUI
P.O. BOX 1108
WAILUKU, MAUI, HAWAII 96793-7108

December 28, 1994

Mr. Brian W. Miskae, Director
Maui County Planning Department
250 South High Street
Wailuku, Hawaii 96793

Aloha Mr. Miskae,

Re: Proposed 37.7-acre, 49-lot, light-industrial-zoned subdivision for a business park at TMK: 4-5-10:17, Lahaina; Comments on the applications Nos. 94/EA-12, 94/CPA-08, 94/CIZ-16 submitted by West Maui Venture Group, Steve Goodfellow and John Kean, General Partners, DBA The Lahaina Business Park

Mahalo for providing the Board of Water Supply with the opportunity and materials to review the subject applications. In response, the Board advises your agency and the applicant of the following:

1. DEMAND:

a. We expect the project to demand a maximum daily water supply of 300,000 gallons, if it is developed like existing projects;

b. In an effort to illustrate the proposed development's average water use rate, we provide the following comparison. An equivalent rate is approximately full volume of Lahaina Aquatic Center's 50 Meter pool used every two days;

2. SUPPLY:

a. The proposed project lays in the area of the Launipoko and Honokowai aquifers. The Honokowai aquifer is expected to close in on its maximum sustainable yield within the next five to ten years. The area is also served by surface water sources;

b. We note a discrepancy in the application report. "Table 1: Major Governmental Approvals/Permits Required," page 8, lists Ground Water Use Permit and Water Well Drilling/ Development Permit. The preliminary engineering report indicates a proposal to pay storage and source assessments in conjunction with new meter fees. However, please refer to the requirements below;

c. The applicant would be required to develop source, transmission and storage for the project;

"By Water All Things Find Life"

MAUI PLANNING DEPT	FYI	COMMENTS	ASSIGN	OFFICE	FILE
BRIAN	<input type="checkbox"/>				
GWEN	<input type="checkbox"/>				
COLLEEN	<input type="checkbox"/>				
CLAYTON	<input type="checkbox"/>				
JULIE	<input type="checkbox"/>				
BILL	<input type="checkbox"/>				
SECRETARY	<input type="checkbox"/>				
ASSIGN TO	<input type="checkbox"/>				
TODAY'S RATE	114.91				
DATE CUC					
By:					

December 28, 1994
Mr. Brian W. Miskae, Director
Proposed 37-acre, 49-lot light-industrial-zoned subdivision for a
business park
TMK 4-5-10:17, Lahaina
page 2

d. New transmissions lines which run to newly-approved projects can have side effects on land-use pressures and growth under certain conditions. These effects are best reviewed by the Planning Department.

For your information, this project would require new transmission. The applicant would be required to provide a source, storage and transmission system. However, it is not clear at this time if the transmission will involve an alignment through a new area. We presently hold or have received no further information;

e. No guarantee of water is granted or implied as a result of these comments or the approval of the subject land-use application;

3. DISTRIBUTION:

a. The project would require integration into the Lahaina water system;

b. At subdivision application, the rules require the applicant to provide water system and fire protection improvements according to the standards;

4. CONSERVATION: We ask you to assist us in promoting the following conservation measures:

a. Building and stand-alone mechanical equipment, including but not limited to air-conditioners, commercial refrigerators and icemakers should be specified as air-cooled or recirculating water-cooled. Single-pass, water-cooled systems should be eliminated per Maui County Code Subsection 14.21.20.

This restriction should be restated and explained in any project covenants, along with any chosen screening requirements for air-cooled units. These units typically are exterior-mounted;

b. Full, attractive plantings are encouraged, yet should be designed to survive on the site's natural rainfall and/or use low amounts of drinking water as supplemental irrigation water.

The subject site is located in what is naturally part of the arid coastal vegetation zone. Native plants characteristic of this vegetation zone include, but are not limited to the following species: screen trees - Hao (Rauvolfia sandwicensis, 20'ht.), Wiliwili (Erythrina sandwicensis, 20'ht.), Olopuu (Nestegis sandwicensis, 15'ht.); shrubs - Alahe'e (Canthium odoratum, 12'ht.), Lama (Diospyros sandwicensis, 12'ht.), Kulu'i (Nototrichium sandwicensis, 8'ht.); Naupaka kahakai

December 28, 1994
Mr. Brian W. Miskae, Director
Proposed 37-acre, 49-lot light-industrial-zoned subdivision for a
business park
TMK 4-5-10:17, Lahaina
page 3

D. CONSERVATION

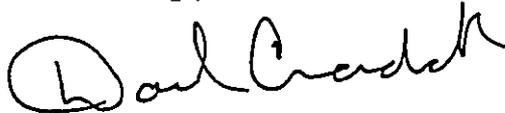
b. (concluded) (Scaevola sericea, 6'ht.), 'A'ali'i
(Dodonaea viscosa, 6'ht.); groundcovers - 'Ulei (Osteomeles
anthyllidifolia, 4'ht.); Nehe (Lipochaeta lamarum, L. succulenta,
L. rockii, 3'ht.), 'Akia (Wikstroemia uva-ursi, W. species, 2'ht.),
Pohinahina (Vitex rotundifolia, 3'ht.), 'Ilima papa (Sida fallax,
.5'ht.) 'Akoko (Chamaesyce spp., 1'ht.).

Planting with these or similar species, as site conditions and
commercial-availability permit, saves drinking water. The plants
survive on the site's rainfall supplemented with low amounts of
irrigation during the first year(s) and summers.

Turf species with low water use requirements are, for example,
Buffalograss (18"-28"/year), Common Bermuda, 'No Mow' Bermuda and
Zoysia.

Further guidance in water conservation in landscaping may be
found in the document, "Xeriscape: Water Conservation Through
Creative Landscaping" or in the Maui County Planting Plan.

Sincerely,



David R. Craddick, Director

DDS cr:\dds\lahaina.bus

copy w/attachment: Applicant- West Maui Venture Group, Steve
Goodfellow and John Kean, General Partners, DBA The Lahaina
Business Park



David Craddick, Director
Department of Water supply
County of Maui
200 South High Street
Wailuku, HI 96793

March 10, 1995

SUBJECT: Draft Environmental Assessment
for the West Maui Venture Group/Lahaina Business Park
TMK: 4-5-10:7

Dear Mr. Craddick:

First of all, thank you for taking the time to meet with Steve Goodfellow, Jac Kean, Warren Unemori and myself last month. As a result of that meeting and of your letter dated December 28, 1994 to Brian Miskac, we would like to take this opportunity to respond to your comments.

As we discussed, our analysis indicates that the actual water usage will be somewhere in the neighborhood of 63,000 gallons per day.

We agree to adhere to all government approvals as well as installing the improvements to the necessary transmission system whereby we will install approximately a 2,000 linear foot 12" line along Honoapiilani Highway from an existing line at Kapunakca Street.

It is also our understanding that an additional line from the Honoapiilani Highway to the project and within the project will consist of a 12" line with fire hydrants spaced at 250 feet apart.

We also intend to pay our fair share of any pro rata impact fees for the required storage facilities.

We understand that Board of Water Supply cannot guarantee water availability.

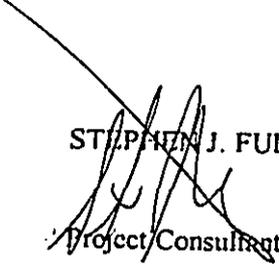
We intend to work very closely with the Department of Water Supply regarding applicable departmental requirements during the design phase and the building permit process.

The distribution of the project water will be integrated into the Lahaina water system for the purposes of providing water an fire protection.

Additionally, the project intends to incorporate Xeriscape principles, including the use of low water demand plants, which minimize the impact of water usage for landscape irrigation.

Your input to the Environmental Assessment process is sincerely appreciated. If you have any questions, please feel free to call me at 874-0658.

Sincerely,


STEPHEN J. FULTON

Project Consultant



United States
Department of
Agriculture

Natural
Resources
Conservation
Service

P. O. Box 50004
Honolulu, HI
96850-0001

Subject: Comments on Environmental Assessment
Lahaina Business Center

Date: Jan. 11, 1995

To: Brian Miskae, Planning Director
Maui Planning Department
250 S. High St.
Wailuku, Maui, Hawaii 96793

File Code: 220

The subject property is dominantly prime farmland. Arguments stated in the petition (page 11) that; (a) the conversion of prime land to other uses as a trend "will likely continue on a statewide basis", and (b) that the inference that because sugar prices are unfavorable, one might as well convert the land are poor justification for, in essence, forever removing our best lands from producing high value crops of any other type. A more far sighted approach needs to be taken on these issues.

The project zoning also creates a hardship for Pioneer Mill Company's ability to farm and safely move its equipment to and from the mill.

If this parcel is developed, there are existing irrigation and drainage ditches which need to be maintained in order to transmit storm runoff through the property. If these ditches are altered or buried, the Subdivision Erosion Control Plan needs to provide ameliorating alternatives.

Thank you for allowing us the opportunity to review this Environmental Assessment. Please send us notification of your decision on this Environmental Assessment for our information.

KENNETH M. KANESHIRO
State Conservationist

cc: Neal Fujiwara, DC, Wailuku F.O.

RECEIVED

95 JAN 13 P 1:04



Kenneth M. Kaneshiro, State Conservationist
U. S. Department of Agriculture
Natural Resources Conservation Service
P. O. Box 50004
Honolulu, HI 96850-0001

March 27, 1995

SUBJECT: Draft Environmental Assessment
for the West Maui Venture Group/Lahaina Business Park
TMK: 4-5-10:7

Dear Mr. Kaneshiro:

We have received a copy of your January 11, 1995 letter to Brian Miskae pertaining to the proposed project. Since your comments were received during the review period of the Draft Environmental Assessment, we would like to provide a response to your comments.

1. Please note that the primary reason for utilizing this land for urban uses is because of its unique location. The subject is completely enveloped by urban designated lands and as a result is far more suited for urban uses than continued Agriculture use.

2. There currently is a recorded easement granted to Pioneer Mill for the cane haul road. The easement contains language which does not allow the impediment of cane haul traffic or the obstruction or creation of a hazardous situation during construction and upon full development of the property. Pioneer Mill has been provided with copies of the Land Use Petition and the Community Plan Amendment. Pioneer Mill created the easement to prevent impedance of operations, as such no anticipated hardships will occur as a result of this project. West Maui Venture Group will adhere to the terms of the recorded easement.

2. We will adhere to and follow all county, state and federal requirements in maintaining existing irrigation and drainage ditches which service offsite locations. If, for any reason, these ditches are altered we will submit to your office for review a Subdivision Erosion Control Plan.

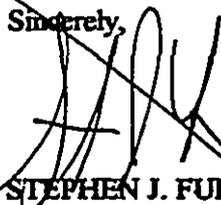
P.O. BOX 220, KIHEI, HAWAII 96753



Kenneth M. Kaneshiro, State Conservationist
U.S. Department of Agriculture
March 27, 1995
Page Two

Your input to the Environmental Assessment process is sincerely appreciated. If you have any questions, please feel free to call me at 874-0658.

Sincerely,

A handwritten signature in black ink, appearing to read 'S. J. Fulton', written over a diagonal line that extends from the end of the preceding sentence.

STEPHEN J. FULTON
Project Consultant

2600
BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



PETER A. SYBINSKY
Director of Health
Lawrence Hart, M.D., M.P.H.
DISTRICT HEALTH SERVICES ADMINISTRATOR (M)

'95 JAN -3 P1:22

STATE OF HAWAII
DEPARTMENT OF HEALTH
MAUI DISTRICT HEALTH OFFICE
54 HIGH STREET
WAILUKU, MAUI, HAWAII 96793

DEPARTMENT OF HEALTH
RECEIVED

MAUI PLANNING DEPT	FYI	COMMENTS	ASSIGN	SEE ME	FILE	DRAFT RESPONSE
BRIAN	<input type="checkbox"/>					
GWEN	<input type="checkbox"/>					
COLLEEN	<input type="checkbox"/>					
CLAYTON	<input type="checkbox"/>					
JULIE	<input type="checkbox"/>					
BILL	<input type="checkbox"/>					
SECRETARY	<input type="checkbox"/>					
ASSIGN TO	<input type="checkbox"/>					
TODAY'S DATE		1/4/95				
BY						

December 27, 1994

Mr. Brian Miskae
Director
Department of Planning
County of Maui
250 S. High Street
Wailuku, Hawaii 96793

Dear Mr. Miskae:

Subject: 94/CPA-08, 94/EA-12, 94/CIZ-16, Lahaina Business Center, TMK: 4-5-10:
7, Lahaina, Maui, Hawaii

We have reviewed the subject document. Because the project disturbance area may likely exceed five (5) acres and discharges are anticipated, the owners are required to file a Notice of Intent (NOI) for coverage under the National Pollutant Discharge Elimination System (NPDES) for the discharges of storm water associated with construction activities for the subject facility/site. Additionally, we have the following comments:

1. If the project involves the following activities with discharges into state waters, a separate NPDES permit is required for each activity.
 - a. Construction dewatering effluent;
 - b. Non-contact cooling water;
 - c. Treated effluent from leaking underground storage tank remediation activity.

Any person wishing to be covered by the NPDES General Permit for any of the above activities should file an NOI with the Department of Health, Clean Water Branch at least 90 days prior to commencement of any discharge to waters of the State.

According to Section 11-55-34.08 of the Hawaii Administrative Rules, a filing fee in the amount of \$100.00 is required. The filing fee should be submitted to our office in a check or money order payable to the State of Hawaii.

2. The applicant should contact the Army Corps of Engineers to identify whether a Federal permit (including a Department of Army permit) is required for this project. A Section 401 Water Quality Certification is required for "Any applicant for a Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into navigable waters..." pursuant to Section 401(a)(1) of the Federal Water Pollution Control Act commonly known as the Clean Water Act.

Should you have any questions regarding the comments, please contact Mr. Arnold Lam, Engineering Section of the Clean Water Branch, at 586-4309, or our toll free number at 1-800-468-4644, ext. 64039.

Sincerely,



HERBERT S. MATSUBAYASHI
Acting Chief Sanitarian, Maui

cc: Clean Water Branch, Oahu



Herbert S. Matsubayashi
Acting Chief Sanitarian, Maui
State of Hawaii
Department of Health
54 High Street
Wailuku, Maui, HI 96793

March 18, 1995

SUBJECT: Draft Environmental Assessment
for the West Maui Venture Group/Lahaina Business Park
TMK: 4-5-10:7

Dear Mr. Matsubayashi:

We have received a copy of your December 27, 1994 letter to Brian Miskae pertaining to the proposed project. Since your comments were received during the review period of the Draft Environmental Assessment, we would like to provide a response to your comments.

1. During the design phase we intend to file a Notice of Intent for coverage under the National Pollutant Discharge Elimination System (NPDES) for the discharges of storm water associated with construction activities for the project.

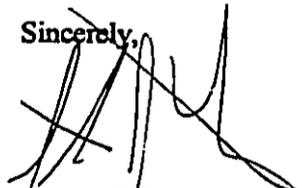
2. We intend to file our NPDES General Permit during the required time frame as you specified in your letter.

3. Construction documents for storm water discharges and subsurface drainage activities will be circulated and provided to your office as they become available.

4. We are in communication with the Army Corps of Engineers and intend on obtaining all the necessary and required federal permits for this project.

Your input to the Environmental Assessment process is sincerely appreciated. If you have any questions, please feel free to call me at 874-0658.

Sincerely,



STEPHEN J. FULTON
Project Consultant

P. O. BOX 220, KIHEI, HAWAII 96753

(1)



DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER, HAWAII 96858-5440

REPLY TO
ATTENTION OF

December 22, 1994

'94 DEC 27 P1:24

Planning Division

DEPT OF THE ARMY
ENGINEER DISTRICT
HONOLULU
RECEIVED

Ms. Ann Cua, Planner
County of Maui
Planning Department
250 South High Street
Wailuku, Maui, Hawaii 96793

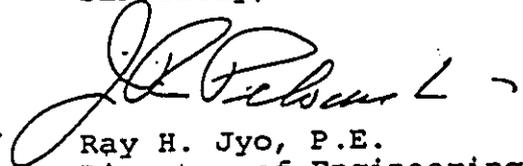
Dear Ms. Cua:

Thank you for the opportunity to review and comment on the Zoning Change and Environmental Assessment for the Proposed Lahaina Business Park, Maui (TMK 4-5-10:7). The following comments are provided pursuant to Corps of Engineers authorities to disseminate flood hazard information under the Flood Control Act of 1960 and to issue Department of the Army (DA) permits under the Clean Water Act; the Rivers and Harbors Act of 1899; and the Marine Protection, Research and Sanctuaries Act.

a. A DA permit may be required for work in streams, wetlands and other waters of the U.S. Please contact our Regulatory Branch staff at 438-9258 and refer to file number PO95-020.

b. The flood hazard information provided on page 14 of the environmental assessment is correct.

Sincerely,


Ray H. Jyo, P.E.
Director of Engineering

MAUI
PLANNING
LPT
BRIAN
GWEN
COLLEEN
CLAYTON
JULIE
JILL
SECRETARY

MAUI PLANNING DIVISION
12/27



Lahaina
BUSINESS PARK

Ray H. Jyo, P.E.
Director of Engineering - Planning Division
Department of the Army
U. S. Army Engineer District, Honolulu
Ft. Shafter, Hawaii 96858-5440

March 18, 1995

SUBJECT: Draft Environmental Assessment
for the West Maui Venture Group/Lahaina Business Park
TMK: 4-5-10:7

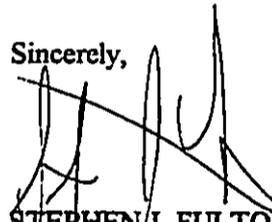
Dear Mr. Jyo:

We have received a copy of your December 22, 1994 letter to Brian Miskae pertaining to the proposed project. Since your comments were received during the review period of the Draft Environmental Assessment, we would like to provide a response to your comments.

Please note the attached letters from the Regulatory Branch of the U. S. Army Corps of Engineers and the letter from the Fish and Wildlife Service commenting on the non-existence of wetlands in the project area. At this time we don't foresee the need to receive a Department of the Army permit for wetlands clarification. However, we intend on submitting any other Department of the Army permits as required.

Your input to the Environmental Assessment process is sincerely appreciated. If you have any questions, please feel free to call me at 874-0658.

Sincerely,



STEPHEN J. FULTON
Project Consultant

Enclosures



DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER, HAWAII 96858-5440

February 17, 1995

REPLY TO
ATTENTION OF

Regulatory Branch

Mr. Steve Fulton
Project Consultant
West Maui Venture Group
P.O. Box 220
Kihei, Hawaii 96753

Dear Mr. Fulton:

This letter concerns your Lahaina Business Park project, TMK: 4-5-10:7, Lahaina, Maui, Hawaii.

As we discussed on February 16, 1995, the Natural Resources Conservation Service (formerly Soil Conservation Service) has the responsibility to determine wetlands on agricultural lands; you stated that you have already contacted them for a determination.

Based on our telephone conversation and information provided in the zoning change application, a Department of the Army (DA) permit is not required for activities occurring above Kahoma Stream. However, if any activity involves Kahoma Stream, plans and drawings must be submitted to our Operations and Maintenance Division for review and a DA permit may be required.

File number NP 95-043 has been assigned to your project. If you have any questions please contact me at (808) 438-9258, extension 13, or Karen Tomoyasu at (808) 438-9258, extension 20 and reference the file number above.

Sincerely,

for Terrell E. Kelley
Team Leader
Maui, Molokai, Lanai, and Kauai



Lahaina
BUSINESS PARK
A WEST MAUI VENTURE GROUP PROJECT

Terrell B. Kelley, Team Leader, Regulatory Branch
Department of the Army
U. S. Army Engineer District, Honolulu
Ft. Shafter, Hawaii 96858-5440

March 10, 1995

SUBJECT: Draft Environmental Assessment
for the West Maui Venture Group/Lahaina Business Park
TMK: 4-5-10:7

Dear Ms. Kelley:

We have received a copy of your February 17, 1995 letter pertaining to the proposed project. Since your comments were received during the review period of the Draft Environmental Assessment, we would like to provide a response to your comments.

During the design phase and building permit process, it is our intent to submit all necessary plans and drawings relative to any activity involving the Kahoma Stream as it relates to the Department of Army requirements. We will keep you apprised of the progress of our project as it moves along.

I look forward to meeting you and please feel free to call me the next time you are on Maui.

Sincerely,

STEPHEN J. FUBTON
Project Consultant

S. Goodfellow
John Z.
~~_____~~
B. Broudy



FISH AND WILDLIFE SERVICE
Pacific Islands Ecoregion
300 Ala Moana Blvd., Room 6307
Honolulu, Hawaii 96850

Tel: (808) 541-3441 Fax: (808) 541-3470

In Reply Refer To: AAP

FEB 14 1995

Governor Benjamin J. Cayetano
Office of the Governor
Office of State Planning
P. O. Box 3540
Honolulu, Hawaii 96811-3540

Re: Petition for a Land Use District Boundary Amendment for the Lahaina Business Park
in Lahaina, Maui, Hawaii TMK No. II 4-5-10:7

Dear Governor Cayetano:

The U.S. Fish and Wildlife Service (Service) has reviewed the proposal to reclassify 15.2 hectares (37.7 acres) from the Agricultural district to the Urban district in order to develop an enterprise zone in Lahaina, Maui, Hawaii. The enterprise zone will support the Lahaina Business Park, a commercial and light industrial subdivision within the property. Forty-nine improved lots will be sold in fee simple or leased on a long-term basis. The proposed action will be implemented in two phases within a 10-year period. Phase I will acquire all necessary permits to develop 8.9 ha (22 acres) for light industrial activities while Phase II will develop 4 ha (10 acres) of usable lot space. Finally, a bypass connecting roadway will be constructed and will bisect the property. The project sponsor is the West Maui Venture Group. The Service offers the following comments for your consideration.

No significant adverse effects to fish and wildlife resources are expected to result from implementation of the proposed zone change. The affected area lacks rare, threatened, and endangered species and the site is currently dominated by sugar cane cultivation.

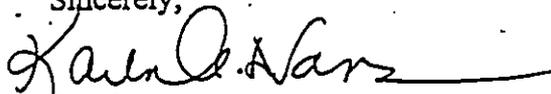
However, the Service is concerned that Kahoma Stream and adjacent riparian wetlands may be impacted by excessive runoff generated by the operation of the Lahaina Business Park. Potential project-related impacts include nonpoint source pollution resulting from the construction and operation of the commercial/industrial businesses. The petition identifies several mitigation measures to accommodate stormwater impacts including City and County approved drainage structures, diversion ditches, and subsurface detention facilities to

Petition for a Land Use District Amendment
Lahaina Business Park
Lahaina, Maui, Hawaii

maintain water quality. Provided that these measures are incorporated into the overall project design, the Service will not object to the proposed zone change.

The Service appreciates the opportunity to provide these comments. If you have questions regarding our comments, please contact Fish and Wildlife Biologist Arlene Pangelinan at 808/541-3441.

Sincerely,



Brooks Harper
Field Supervisor
Ecological Services

cc: West Maui Venture Group
Maui Planning Department



Brooks Harper, Field Supervisor, Ecological Services
Fish and Wildlife Services
Pacific Islands Ecoregion
300 Ala Moana Blvd., Room 6307
Honolulu, HI 96850

March 10, 1995

SUBJECT: Draft Environmental Assessment
for the West Maui Venture Group/Lahaina Business Park
TMK: 4-5-10:7

Dear Mr. Harper:

We have received a copy of your letter to the Office of State Planning pertaining to the proposed project. Since your comments were received during the review period of the Draft Environmental Assessment, we would like to provide a response to your comments.

Paragraph 3 of your letter indicates that the Fish and Wildlife Service is concerned that the Kahoma Stream and adjacent riparian wetlands may be impacted by excessive runoff. Mr. Abe Matsuda of the Office of State Planning indicated in his testimony to the Land Use Commission that an inspection of this area after the date of your letter reflected that the existing Kahoma Stream and the adjacent riparian wetlands will not be impacted by the project. It is our hope that this inspection has mitigated your initial concern. Could you please confirm in writing that this is, in fact, your position on this matter.

We intend to adhere to all county, state and federal requirements as they relate to drainage structure, diversion ditches and subservice detention facilities to maintain water quality. We will be happy to keep you informed on the progress of the project during the design phase and the building permit process.

Your input to the Environmental Assessment process is sincerely appreciated. If you have any questions, please feel free to call me at 874-0658.

Sincerely,



STEPHEN J. FULTON
Project Consultant



**Lahaina
BUSINESS PARK**

RECEIVED
1994 DEC 14 10 30 24
COUNTY OF MAUI

December 7, 1994

Mr. David Wissmar
Land Use & Codes
Solid Waste Division
250 South High Street
Wailuku, HI 96793

Subject: Solid Waste Management Plan for LUC Docket No. A94-710
West Maui Venture Group

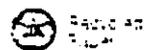
Dear Mr. Wissmar:

On November 15, 1994, West Maui Venture Group submitted a Boundary Petition Amendment to the State Land Use Commission and concurrent submissions of the Community Plan Amendment and a Change in Zoning Request were submitted to the Maui County Planning Department.

Pursuant to Maui County Codes, submitted herewith is the Solid Waste Management Plan for the 37 acre Lahaina Business Park located at TMK 4-5-10:7.

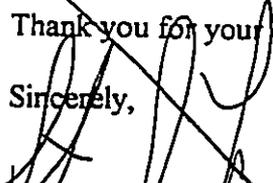
1. The owner and/or contractor will dispose of all clearing and grubbing material on the project site. No clearing and grubbing material will be disposed of at the County sanitary landfill.
2. Clearing and grubbing material will be used as mulch on the site as much as possible or will be disposed of through a private composting company.
3. Excavated material and rocks will be used as fill material during the development of the parcel. Excess material will be distributed to other construction sites needing fill.
4. All the existing scrap metal will be removed from the property site by Maui Scrap Metal Company.
5. All contractors and subcontractors will be required to submit a Solid Waste Management Plan to the developer as part of their contract.

P.O. BOX 229 KIHEI, HAWAII 96753



Thank you for your consideration in this matter.

Sincerely,


STEPHEN J. FULTON
Project Consultant

LINDA CROCKETT LINGLE
Mayor

GEORGE N. KAYA
Director

CHARLES JENCKS
Deputy Director

AARON SHINMOTO, P.E.
Chief Staff Engineer



COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
AND WASTE MANAGEMENT

200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793

RALPH NAGAMINE, L.S., P.E.
Land Use and Codes Administration

EASSIE MILLER, P.E.
Wastewater Reclamation Division

LLOYD P.C.W. LEE, P.E.
Engineering Division

DAVID WISSMAR, P.E.
Solid Waste Division

BRIAN HASHIRO, P.E.
Highways Division

January 06, 1995

LAHAINA BUSINESS PARK
Mr. Stephen J. Fulton
Project Consultant
P.O. Box 220
Kihei, Hawaii 96753

Dear Mr. Fulton:

SUBJECT: SOLID WASTE MANAGEMENT PLAN FOR LUC DOCKET NO. A94-710, WEST MAUI VENTURE GROUP

We are in receipt of your solid waste management plan for the above mentioned project and find it to be acceptable.

Should you have any further questions or concerns, please contact me at 243-7875.

Very truly yours,

A handwritten signature in cursive script, appearing to read "David F. Wissmar".

DAVID F. WISSMAR
Solid Waste Division Chief

DFW:jip

Attachment

xc: Land Use & Codes Administration
Planning Department

BENJAMIN J. GAYTANO
GOVERNOR OF HAWAII



KATH AHUE, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTY

JOHN P. KEPPELER II

AQUACULTURE DEVELOPMENT
PROGRAM

AQUATIC RESOURCES
CONSERVATION AND

ENVIRONMENTAL AFFAIRS
CONSERVATION AND

RESOURCES ENFORCEMENT
CONVEYANCES

FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
DIVISION

LAND MANAGEMENT
STATE PARKS

WATER AND LAND DEVELOPMENT

'94 DEC 27 P1:25

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
33 SOUTH KING STREET, 8TH FLOOR
HONOLULU, HAWAII 96813

December 22, 1994

Mr. Brian Miskae, Director
Maui Planning Department
250 South High Street
Wailuku, Maui, Hawaii 96793

LOG NO: 13543 ✓
DOC NO: 9412KD33

Dear Mr. Miskae:

SUBJECT: County of Maui, Historic Preservation Review of a Change in Zoning and Community Plan Amendment - Lahaina Business Park (I.D. No. 94/CPA-08, 94/EA-12, 94/CIZ-16) Panaewa, Lahaina District, Maui TMK: 4-5-10: 7

Thank you for the opportunity to review the application documents for the community Plan Amendment and Change in Zoning for the Lahaina Business Park. The 37.7 acre project site is located along the north side of Kahoma Stream and east of Honoapiilani Highway. The proposed Villages of Leiali'i development project is located adjacent to the north.

The discussion of the affected environment (Chapter II) in both application documents states that an archaeological inventory survey of the project area was conducted in 1989 during a study for the HFDC Villages of Leiali'i project (4.1.1, page 20). This statement is not supported by information provided in the referenced survey report.

A map provided in the survey report for the Villages of Leiali'i project indicates that the Lahaina Business Park project area was not included in the survey area for the HFDC project (*Archaeological Inventory survey, Lahaina master Planned Project Site, Land of Wahikuli, Lahaina, Maui*, P.M. Jensen 1989, p.3). Our prior letter regarding this project does not verify that an archaeological survey was completed of the subject property (letter to S. Fulton, November 2, 1993). The statement regarding prior archaeological survey of the project area should be deleted from the application documents.

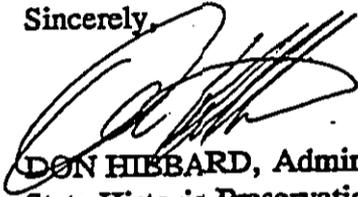
The discussion of historic sites (4.1.1) on page 20 references Appendix H for a copy of the November 3, 1993 letter to S. Fulton. This letter is actually in Appendix J of the application documents.

Mr. Brian Miskae
Page 2

The November 3, 1994 letter indicated that the project area has been impacted by agricultural and construction activities, and that there is little likelihood of undisturbed historic sites being present. Given the present condition of the property, we indicated that the project would have "no effect" on historic sites. We have received no new information regarding historic sites within the project area since our last review of this project. Our prior statements are therefore still current.

Please contact Ms. Theresa Donham at 243-5169 if you have any questions.

Sincerely,



DON HIBBARD, Administrator
State Historic Preservation Division

KD:ab



Lahaina
BUSINESS PARK
A WEST MAUI VENTURE GROUP PROJECT

Don Hibbard, Administrator
State Historic Preservation Division
Department of Land & Natural Resources
33 South King Street, 6th Floor
Honolulu, HI 96813

March 10, 1995

SUBJECT: Draft Environmental Assessment
for the West Maui Venture Group/Lahaina Business Park
TMK: 4-5-10:7

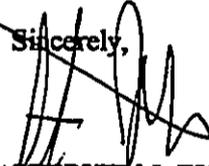
Dear Mr. Hibbard:

We have received a copy of your December 22, 1994 letter to Brian Miskae pertaining to the proposed project. Since your comments were received during the review period of the Draft Environmental Assessment, we would like to provide a response to your comments.

Thank you for bringing to our attention the incorrect appendix reference regarding the prior archaeological survey of the project area. We have corrected this portion of the document and our Final Environment Assessment is consistent with your November 2, 1993 letter to me. I thank you for your analysis and input regarding our project.

Your input to the Environmental Assessment process is sincerely appreciated. If you have any questions, please feel free to call me at 874-0658.

Sincerely,


STEPHEN J. FULTON
Project Consultant

P.O. BOX 220, KIHEI, HAWAII 96753



DOCUMENT CAPTURED AS RECEIVED

MAR-26-95 MON 11:03 AM HUGH FARRINGTON A14

888 879 3245

BENJAMIN CAJETANO
GOVERNOR



KAZU HAYASHIDA
DIRECTOR
DEPUTY DIRECTOR
SAM CALLEJO
GLENN M. OKIMOTO

95 MAR -9 11:13

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 06813-5097

IN REPLY REFER
STP 8.6626

RECEIVED

March 7, 1995

SECRETARY
3/12
3/10/95

TO: Mr. Gregory Pai, Director
Office of State Planning

FROM: Kazu Hayashida
Director of Transportation

SUBJECT: PETITION FOR AMENDMENT TO THE STATE LAND USE DISTRICT
BOUNDARIES, A94-710/WEST MAUI VENTURE GROUP

This memorandum is a followup to our memo of February 8, 1995, STP 8.6584, stating some concern with the traffic impact report. We have the following detailed comments:

The Traffic Impact Analyses Report (TIAR) should be revised and submitted for our review and approval. Specifically,

1. The TIAR should assess the full build-out of planned projects in the area. Reflecting partial development of projects planned for the area will not provide an accurate indication of the transportation deficiencies or improvements required for the area.
2. The TIAR is inconsistent with the Housing Finance and Development Corporation (HFDC) Project. The HFDC project cited that the capacity of Honoapiilani Highway would be reached with the development of an additional 2000 units, and that the remaining 2800 units of the project would be contingent upon the construction of the Lahaina Bypass. If this TIAR assumes the Bypass to be in place, then the remaining 2800 units for the HFDC project should be reflected.
3. Similarly, the report is inconsistent with the Puukoolii Village Project. Full development of this project is also contingent upon the completion of the Lahaina Bypass. If the Bypass is assumed to be in place, full build-out of the Village should also be assumed.

DOCUMENT CAPTURED AS RECEIVED

Mr. Gregory Pai
Page 2
March 7, 1995

STP S.6626

4. This report projects that Honoapiilani Highway will be at LOS C and D for the peak periods. This is inconsistent with other traffic reports for the area, which acknowledge that the facility will be at capacity, without full development of the planned projects.
5. It is suggested that the proposed Access Road be extended to the Lahaina Bypass to act as an alternative to Kapunakea Street as a connector road. The intersection analyses would then have to include other traffic which would be diverted to this road as a connector. Currently, only the volumes generated by the Business Park and the Omori Project are accounted for.
6. The total corridor trips between the Year 2000 and 2008 remain substantially the same. Developmental growth aside, this does even reflect the 3.3% average annual normal growth rate which was obtained from the historical trends of traffic in the vicinity.
7. The proposal should identify setbacks and right-of-way requirements for roadway improvements. This should be coordinated with our Highways Division.

Please contact Elton Teshima of our Statewide Transportation Planning Office at 587-1845 should you have any questions.

We appreciate the opportunity to provide comments.

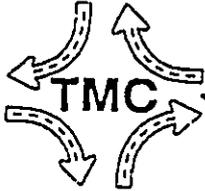
bc: Brian Miskae, Maui Planning Dept

DOCUMENT CAPTURED AS RECEIVED

MAR 23 '95 09:53

TRAFFIC MGT

602 P02



THE TRAFFIC MANAGEMENT CONSULTANT

Randall S. Okaneku, P. E., Principal • 1168 Bishop Street • Suite 1907 • Honolulu, Hawaii 96813
Telephone: (808) 536-0223 • Facsimile: (808) 537-2385

Job No. 9330
March 22, 1995

Hawaii State Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Attention: Mr. Kazu Hayashida, Director

Gentlemen and Ladies:

Subject: Petition for Amendment to the State Land Use District Boundaries
A94-710/West Maui Venture Group

On behalf of West Maui Venture Group, I am responding to comments contained in your memorandum to Mr. Gregory Pai, Director of the Office of State Planning, dated March 7, 1995 (STP 8.6626), regarding the subject petition also known as the Lahaina Business Park. The Traffic Management Consultant was retained by West Maui Venture Group to prepare the "Traffic Impact Analysis Report for the Proposed Lahaina Business Park" (TIAR), dated July 19, 1995. I have discussed the comments on the TIAR with Mr. Elton Teshima and Mr. Wayne Kawahara of your staff. My responses follow:

Comment No. 1

As indicated in Section IV.B.3 "Future Off-Site Traffic In Study Area" on Pages 11 and 12 of the TIAR, Phase I of the Lahaina Business Park is analyzed, assuming partial buildout of major projects planned in the area, in accordance with their respective traffic studies. The development schedules have been adjusted for the current status of those projects. The Phase I traffic impact analysis is performed, assuming that the Lahaina Bypass is not built. However, Phase II of the Lahaina Business Park does take into account full build out of the major projects in the vicinity, most notably the Villages of Lei Ali'i (HFDC project) and the Hawaii Omori Light Industrial project. The Phase II analysis also assumes that the Lahaina Bypass is constructed from Puamana to Honokowai.

DOCUMENT CAPTURED AS RECEIVED

MAR 23 '95 09:54

TRAFFIC MGT

602 F03

Hawaii State Department of Transportation

March 22, 1995

Page 2

Comment No. 2

Traffic studies for other projects, such as the HFDC project and Puukolii Village, may be referring projected capacity conditions on the section of Honoapiilani Highway north of Fleming Road/Front Street. In the vicinity of the project, the highway corridor capacity includes Front Street as well as Honoapiilani Highway. As discussed in the response to Comment No. 1, Phase II traffic impact analysis of the Lahaina Business Park includes full build out of the HFDC project and the construction of the Lahaina Bypass.

Comment No. 3

Phase II traffic impact analysis of the Lahaina Business Park also includes full build out of the Puukolii Village, as indicated in Section IV.B.3 "Future Off-Site Traffic In Study Area" on Page 12 of the TIAR.

Comment No. 4

The Levels of Services (LOS), cited in the TIAR, refer to intersection LOS at the project access. As discussed in the response to Comment No. 2, the section of Honoapiilani Highway, discussed in the HFDC project and Puukolii Village, likely refer to the section of highway north of the Front Street junction.

Comment No. 5

The Project Access Road is not analyzed as a connector roadway between Honoapiilani Highway and the Lahaina Bypass. The TIAR acknowledges references, made in the County's Draft Lahaina Community Plan, to the Project Access Road as a connector roadway between Honoapiilani Highway and Lahaina Bypass. At the writing of the TIAR, it was my understanding that DOT considered Kapunakea Street as the connector roadway between Honoapiilani Highway and the Lahaina Bypass in the vicinity of the project. Should the Project Access Road be extended to the Lahaina Bypass, the TIAR will be revised to reflect additional through traffic between the two highways. The revised TIAR will be submitted for your review.

Comment No. 6

The total corridor trips for the Year 2008 is not presented in the TIAR. The TIAR does assume a diversion of about 35% of through traffic from Honoapiilani Highway to the Lahaina Bypass. The traffic, generated by other projects in the vicinity, is then superimposed over this traffic assignment.

DOCUMENT CAPTURED AS RECEIVED

MAR 23 '95 09:56

TRAFFIC MGT

602 P04

Hawaii State Department of Transportation

March 22, 1995
Page 3

Comment No. 7

Appropriate setbacks and right-of-way requirements for roadway improvements will be identified when the functional classification of the Project Access Road is determined.

If you have any other comments or require any clarification on the above matter, do not hesitate to call me, or I would be pleased to meet with you and your staff at your earliest convenience.

Very Truly Yours,

The Traffic Management Consultant

By

Randall S. Okaneku, P. E.
Principal

Copies to: Mr. Gregory Pai, Office of State Planning
Mr. Brian Miskae, Maui County Planning Department
Mr. Stephen Fulton, West Maui Venture Group
Mr. Eric Maehara, Attorney at Law



Kazu Hayashida, Director of Transportation
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813-5097

March 27, 1995

SUBJECT: Draft Environmental Assessment
for the West Maui Venture Group/Lahaina Business Park
TMK: 4-5-10:7

Dear Mr. Hayashida:

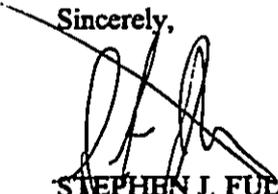
We have received a copy of your memorandum dated March 7, 1995 to Mr. Gregory Pai pertaining to the proposed project. Since your comments were received during the review period of the Draft Environmental Assessment, we would like to provide a response to your comments.

On March 22, 1995 our Traffic Management Consultant, Mr. Randall S. Okaneku, P.E., responded to your comments and it is my understanding that he is communicating with your Statewide Transportation Planning Office to insure that all of your comments have been adequately addressed. I have authorized Mr. Okaneku to insure that all of these comments have been adequately mitigated.

Attached for your information is a copy of Mr. Okaneku's March 22, 1995 letter to your office and the March 13, 1995 letter from Mr. Brian Miskac.

Your input to the Environmental Assessment process is sincerely appreciated. If you have any questions, please feel free to call me at 874-0658.

Sincerely,



STEPHEN J. FULTON
Project Consultant

Enclosures



1920 SENT BY: COUNTY MAUI PLANNING : 3--30-95 : 8:27AM :

0092437634-

508 578 3245: = :



95 MAR 28 12:28

University of Hawai'i at Mānoa

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED

Environmental Center
A Unit of Water Resources Research Center
Crawford 317 • 2550 Campus Road • Honolulu, Hawai'i 96822
Telephone: (808) 956-7361 • Facsimile: (808) 956-3920

March 25, 1995
EA:00114

Ms. Ann Cua
County of Maui, Planning Department
250 South High Street
Wailuku, Hawaii 96793

Dear Ms. Cua:

Lahaina Business Park
Draft Environmental Assessment
Lahaina, Maui, Hawaii

The proposed project involves the development of a 49 lot commercial and light industrial park in Lahaina. The improved lots are proposed to be sold in fee simple or leased on a long-term basis. The project is a ten-year, two-phase development which will ultimately accommodate both large and small businesses predominantly made up of automotive, flex space, offices, retail users, and restaurants.

We reviewed the Draft Environmental Assessment (EA) with the assistance of Kem Lowry, Urban and Regional Planning; and Paul Berkowitz of the Environmental Center.

General Comments

For the most part, given the already developed state of the environment in the Lahaina region, we do not feel that the proposed project will have significant further impacts. Potential traffic effects, perhaps our greatest concern, can probably be addressed through conventional county zoning and land use processes. Another one of our concerns relates to the potential for the light industrial uses to involve some sort of discharge. Since the exact type of light industry is presently unknown, we were unable to determine if any future discharge is likely.

Finally, the Draft EA supposedly contains several appendices on drainage and erosion aspects, traffic analysis, and other facets of the assessment. However the copy we received from OEQC did not include any of the appendices. Needless to say, this severely limited our ability to properly assess the proposed project.

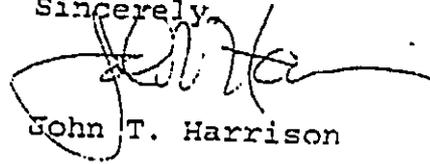
SENT BY:COUNTY MAUI PLANNING : 3-30-95 : 8:28AM :

8082437634-

808 879 3245:z

Thank you the opportunity to comment on this Draft EA.

Sincerely,



John T. Harrison

cc: OEQC
West Maui Venture Group
Roger Fujioka
Kem Lowry
Paul Berkowitz

DOCUMENT CAPTURED AS RECEIVED



Mr. John T. Harrison
University of Hawai'i at Manoa
Environmental Center
Crawford 317 - 2550 Campus Road
Honolulu, Hawaii 96822

March 30, 1995

SUBJECT: Draft Environmental Assessment
for the West Maui Venture Group/Lahaina Business Park
TMK: 4-5-10:7

Dear Mr. Harrison:

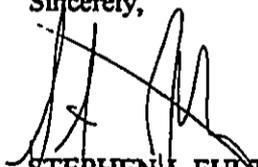
We have received a copy of your letter dated March 25, 1995 to Ms. Ann Cua, County of Maui, Planning Department pertaining to the proposed project. We would like to provide a response to your comments.

We will adhere to all county, state and federal requirements as they relate to any and all drainage or water discharges that will affect the property.

I apologize for your office not being provided all of the necessary appendices of our Draft Environmental Assessment. Included I have provided one complete copy of our Community Plan Amendment for your review. If you have any other comments after review of these appendices, please contact Ms. Ann Cua of the Maui County Planning Department or myself.

Your input to the Environmental Assessment process is sincerely appreciated.

Sincerely,



STEPHEN J. FULTON
Project Consultant

Enclosure

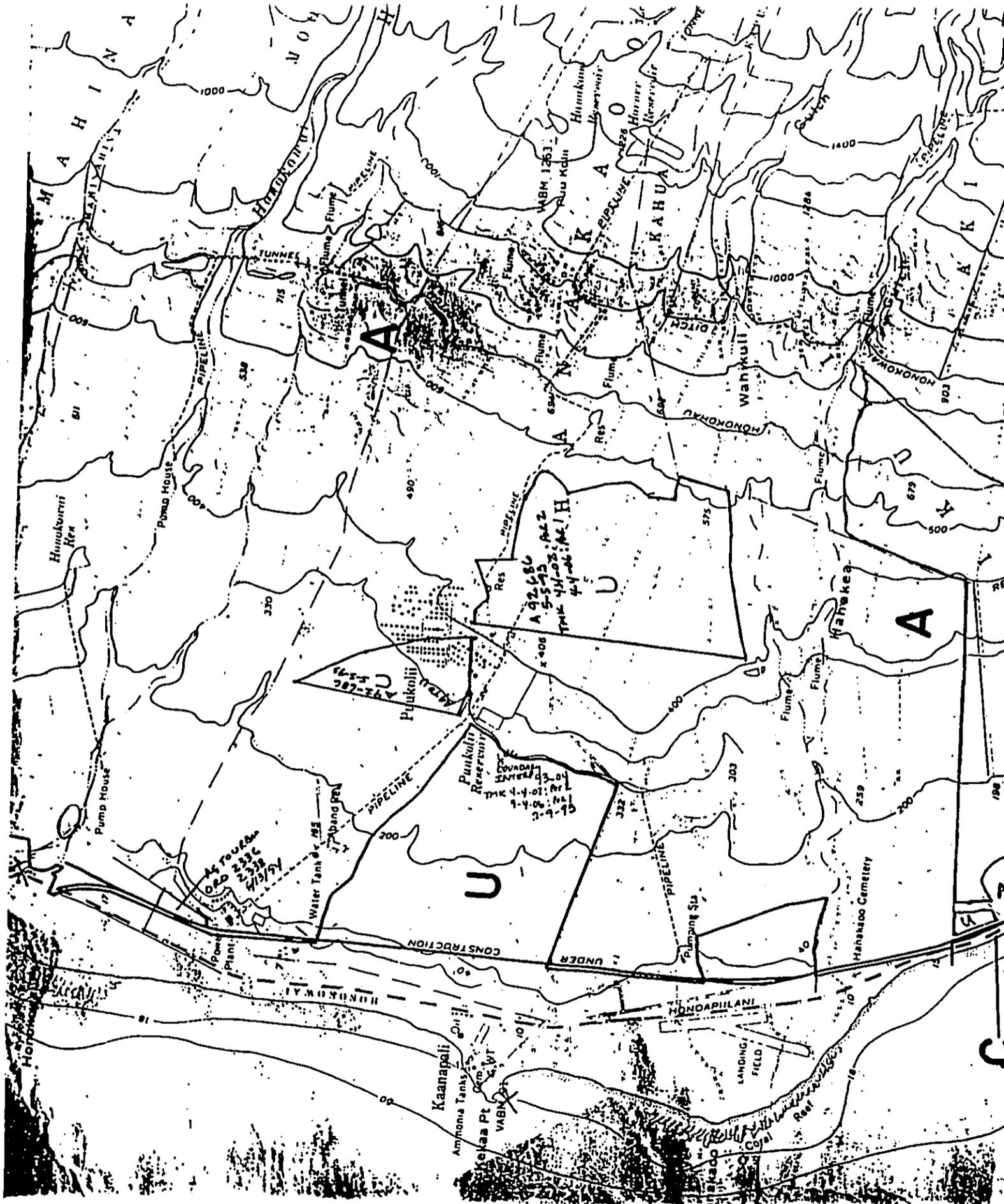
P.O. BOX 100 4000 MAUI HAWAII





Figures

DOCUMENT CAPTURED AS RECEIVED



DOCUMENT CAPTURED AS RECEIVED

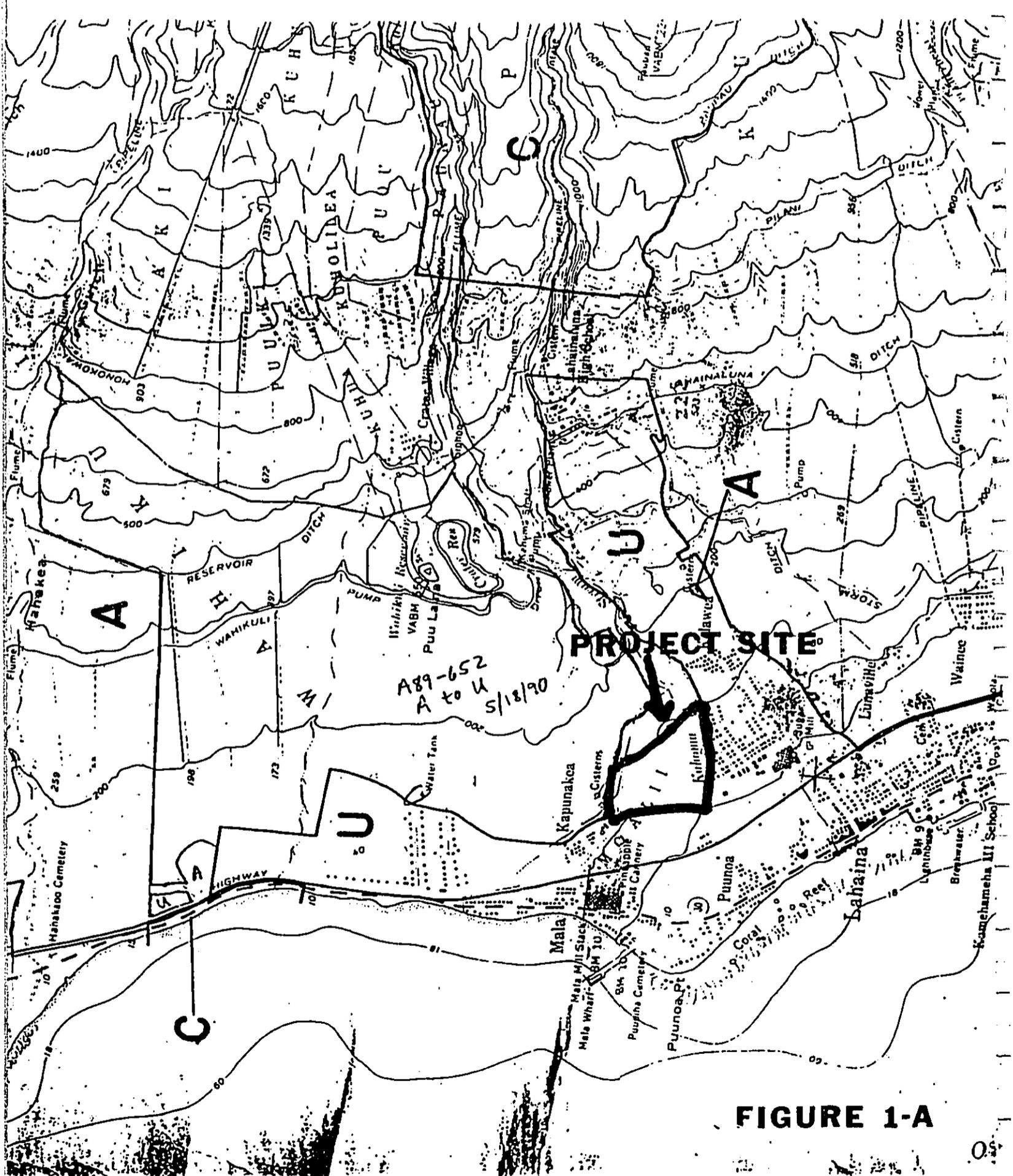
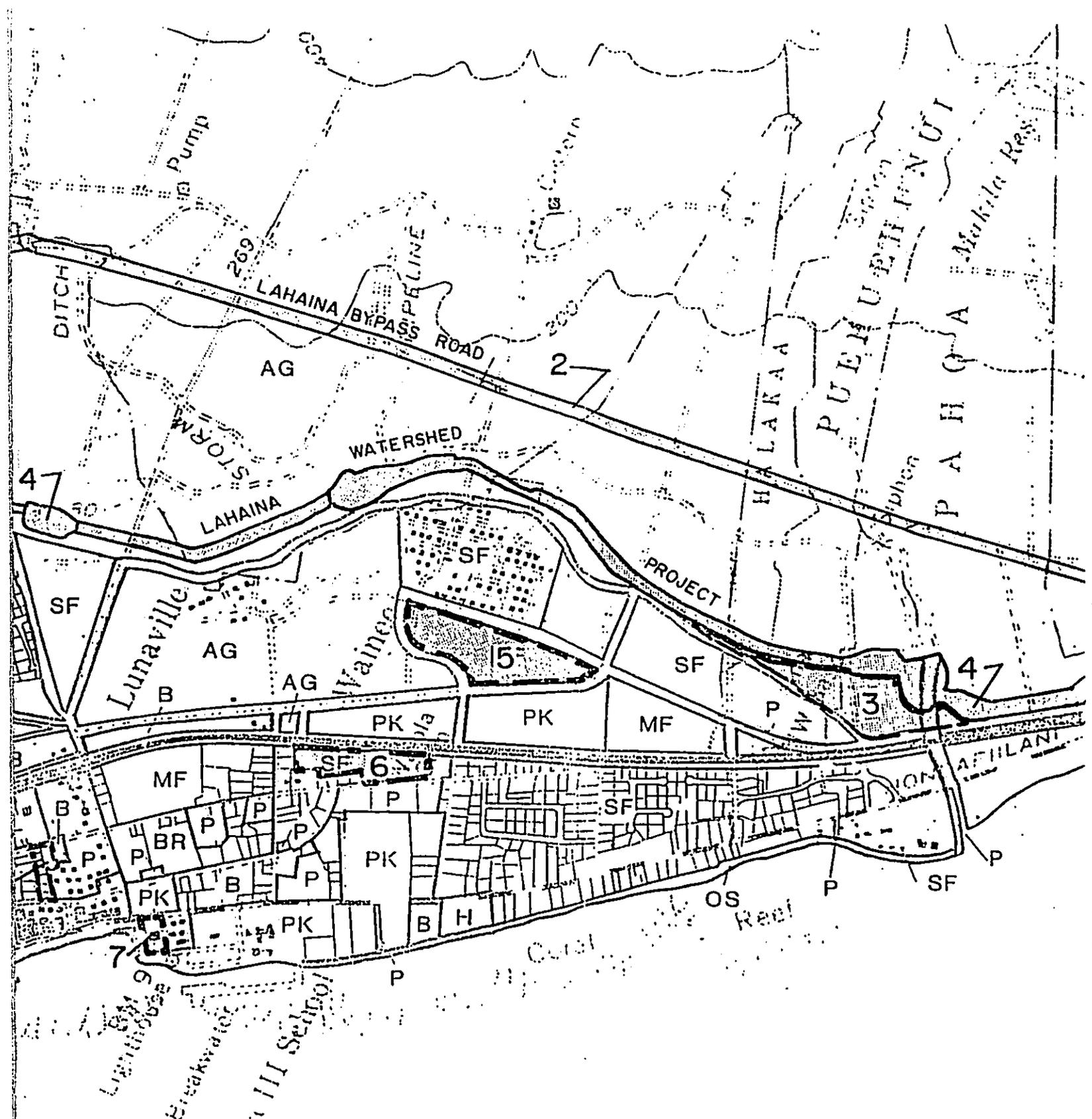


FIGURE 1-A

DOCUMENT CAPTURED AS RECEIVED



 APPROXIMATE SCALE 1 in = 1000 ft

DOCUMENT CAPTURED AS RECEIVED

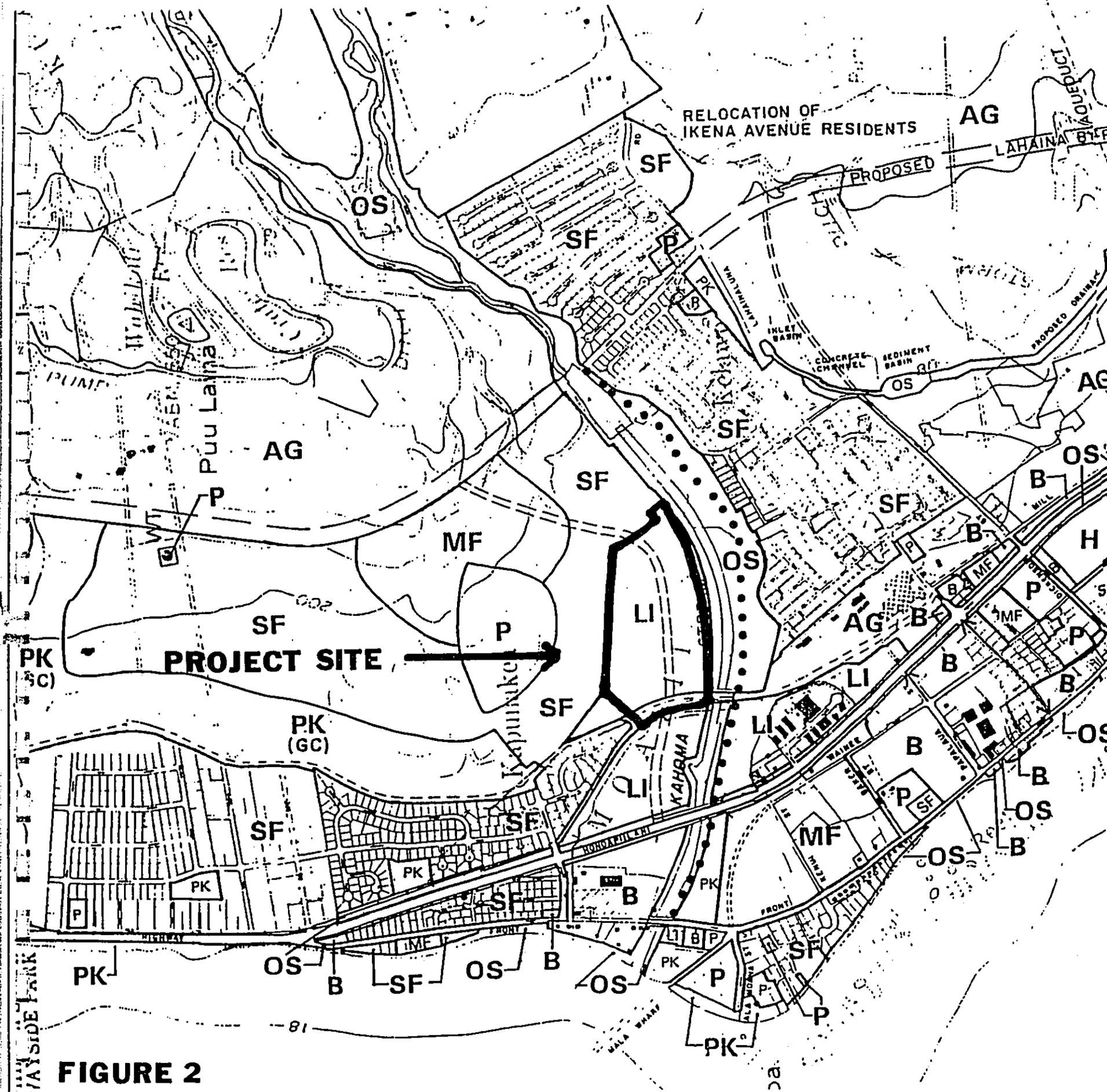
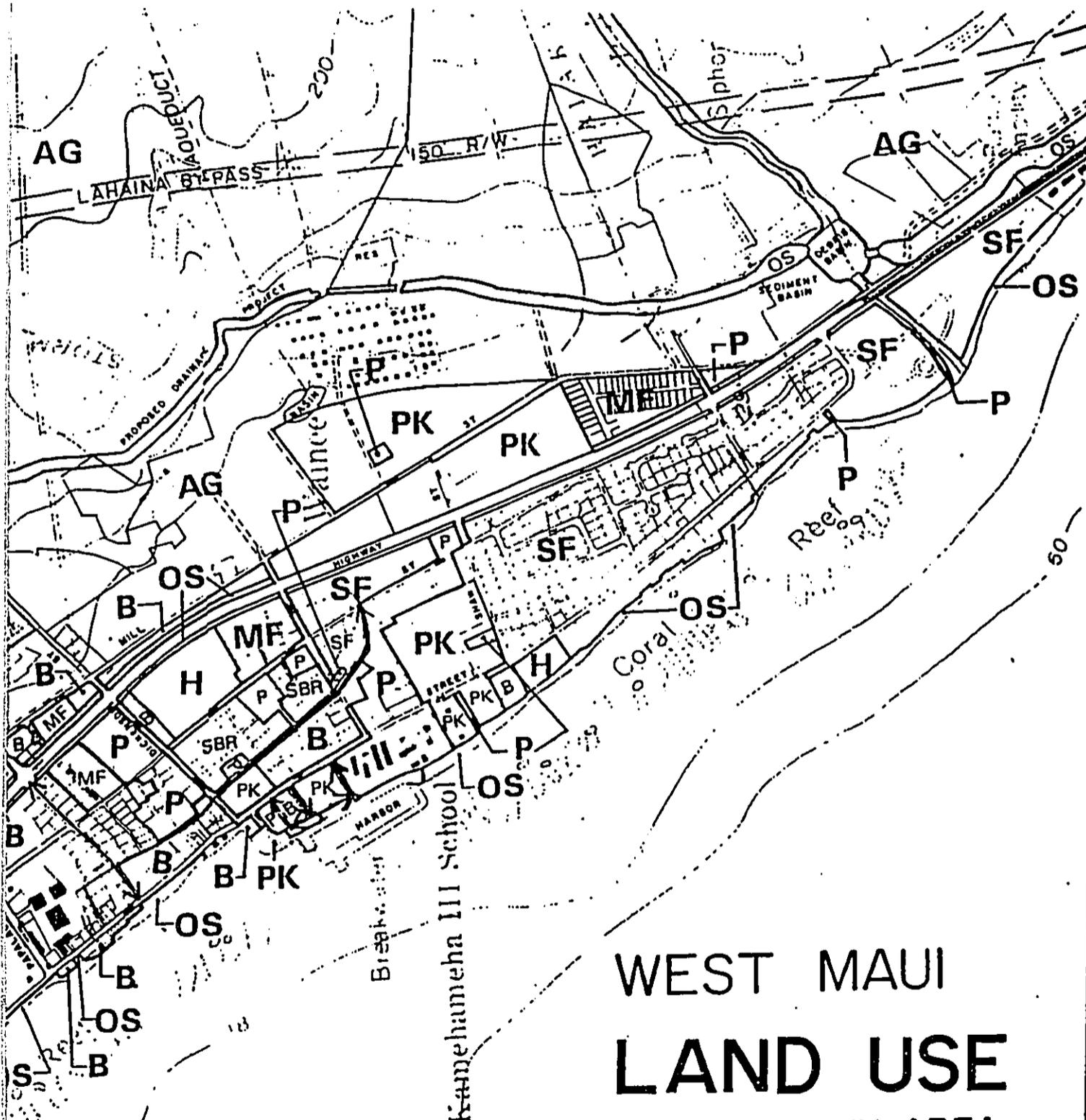


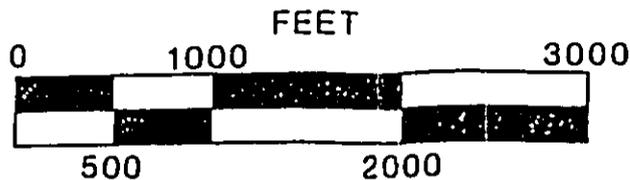
FIGURE 2

DOCUMENT CAPTURED AS RECEIVED



WEST MAUI LAND USE LAHAINA TOWN AREA COUNTY OF MAUI

GRAPHIC SCALE



PLANNING DIRECTOR'S REVISED MAP -- PROPOSED, 1993

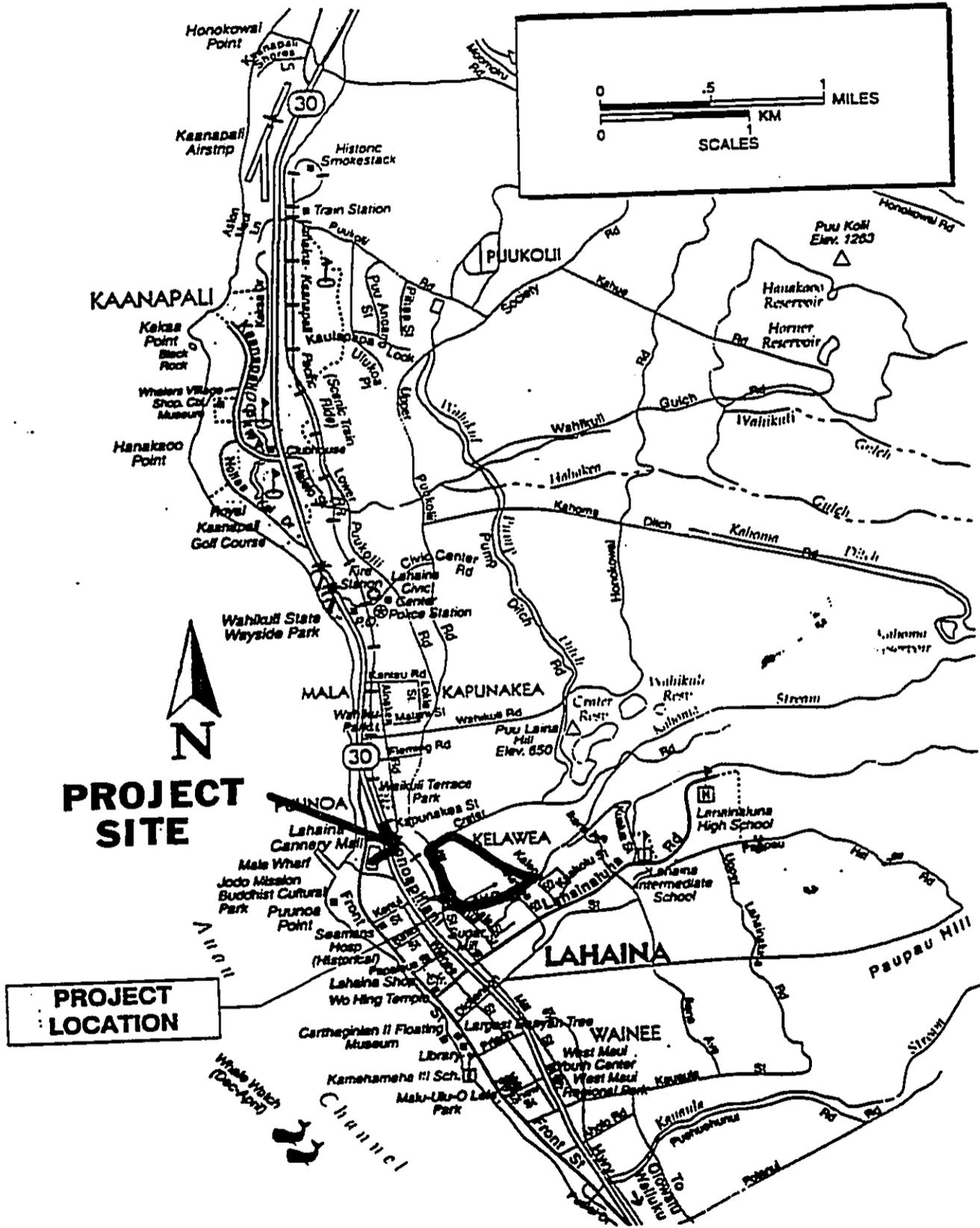


FIGURE 3 - VICINITY MAP

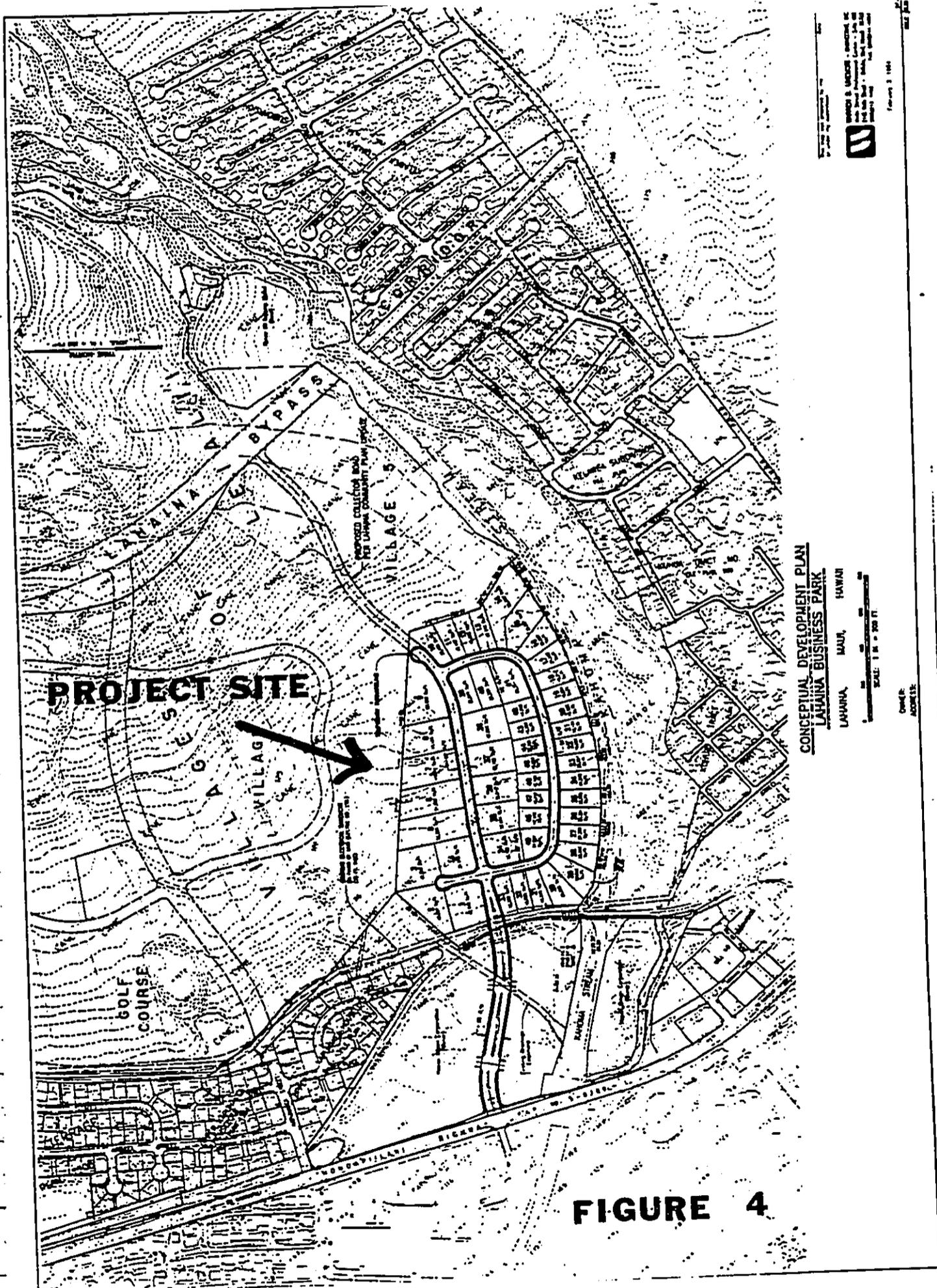
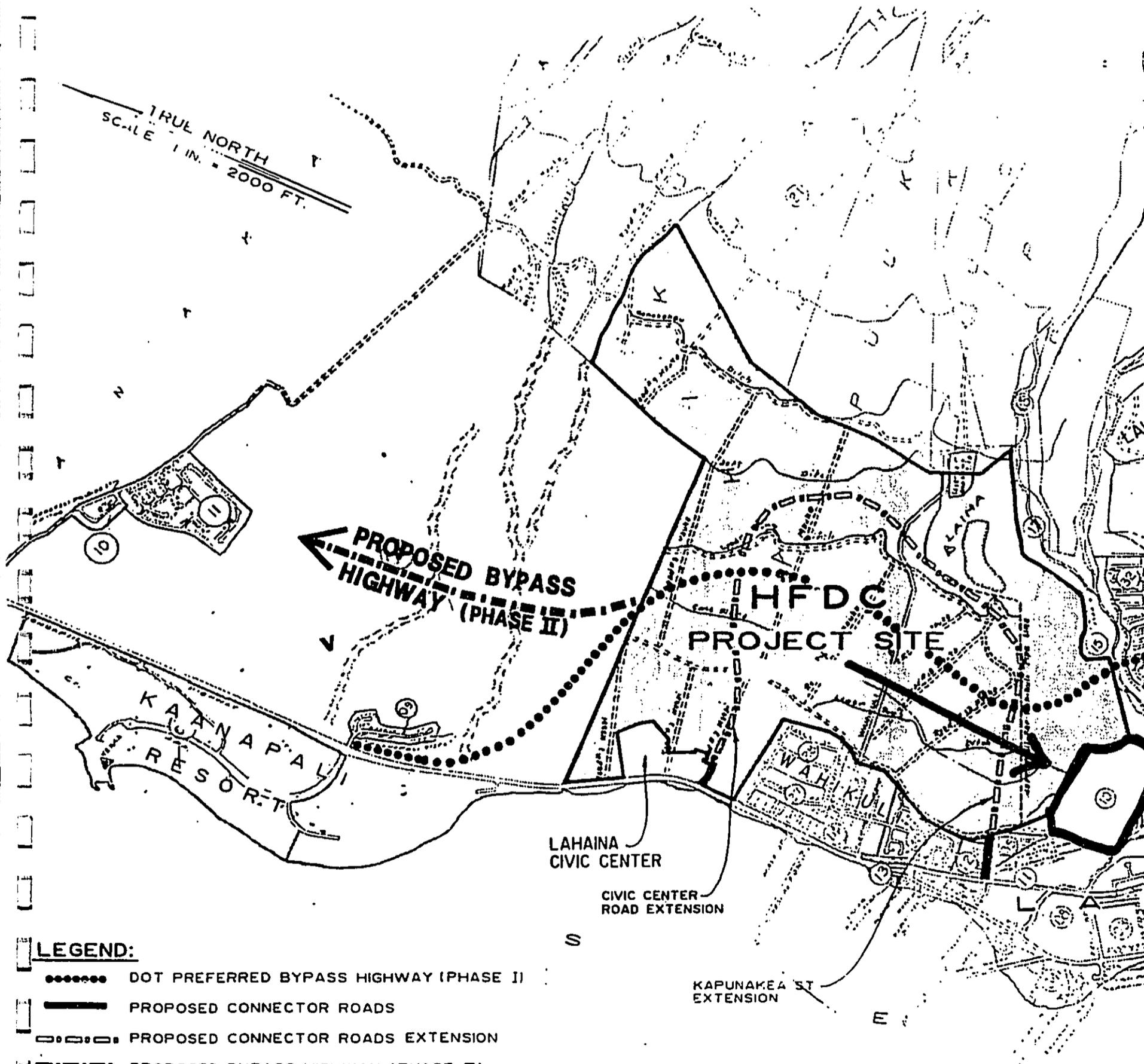


FIGURE 4

DOCUMENT CAPTURED AS RECEIVED

TRUE NORTH
SCALE 1 IN. = 2000 FT.



LEGEND:

- DOT PREFERRED BYPASS HIGHWAY (PHASE II)
- PROPOSED CONNECTOR ROADS
- - - - - PROPOSED CONNECTOR ROADS EXTENSION
- PROPOSED BYPASS HIGHWAY (PHASE II)

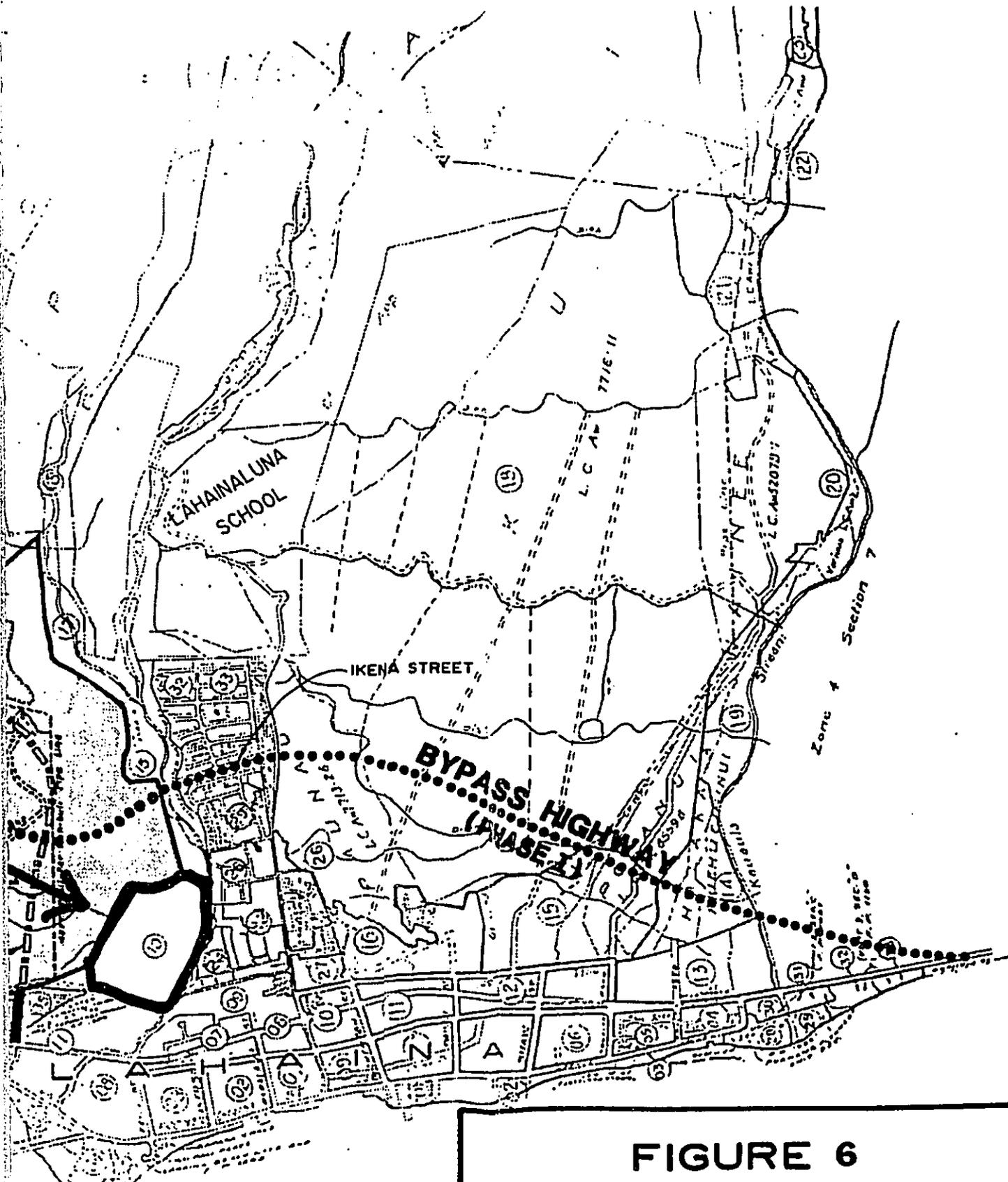


FIGURE 6
MAP OF D.O.T. PREFERRED
ALTERNATIVE
LAHAINA BYPASS HIGHWAY
SCALE: 1 IN. = 2000 FT.



Land Ownership Documentation

SCHEDULE A

CT No. 33784

CERTIFICATE OF TITLE
(Regular System)

Issued for the sole protection of
TITLEHOLDER HEREIN
(Certificate Holder)
Maximum liability limited to
\$1,000.00

Ticor Title Insurance Company (the "Company") hereby certifies that a careful examination has been made of those indices in the State of Hawaii at (a) the Office of the Clerks of the Supreme Court and of the Circuit Court of the Judicial Circuit within which the land is located; (b) the Office of the Clerk of the District Court of the United States for the District of Hawaii; (c) the Office of the Registrar of Conveyances; and (d) the Office of the Tax Assessor and Director of Finance of the County within which the land is located.

As shown by said indices, the Company certifies that the record title to the land described in Schedule C at 8:00 o'clock a. m. on July 8, 1994 is vested in

WEST MAUI VENTURE GROUP
a Hawaii limited partnership
as Fee Owner

and is subject to those matters set forth in Schedule B.

This Certificate of Title is issued subject to the Conditions and Stipulations set forth in Schedule D.

Title Guaranty of Hawaii, Incorporated
as Agent for
Ticor Title Insurance Company

By George Dehara

Authorized Signatory

SCHEDULE B

CT No. 33784

Defects, liens, encumbrances and other matters affecting the title, as disclosed by an examination of the indices referred to in Schedule A hereof.

1. Real Property Taxes for the Fiscal Year July 1, 1994 - June 30, 1995. (see tax statement attached)

Tax Key: 4-5-010-005 (2) Area assessed: 16.683 acres

2. Reservation in favor of the State of Hawaii of all mineral and metallic mines.

3. All rights, claims and/or interests of others which exist or might arise by virtue of those matters set forth in the following memorandum, to-wit:

-AS TO THAT PORTION OF THE LAND UNDER SEARCH COVERED BY APANA 4 OF ROYAL PATENT NUMBER 1860, LAND COMMISSION AWARD NUMBER 6061 TO HANEMO:-

Land Commission Award Number 6061, Apana 4 (area 1.21 acres) was awarded to Hanemo on January 3, 1852 and Royal Patent Number 1860 was subsequently issued thereon. By Deed dated March 10, 1857, recorded in Liber 8 at Page 543, J. Hanemo and wife Piho conveyed "all that parcel of land situate in Puunoa, Lahaina, Maui,.... Apana 4, containing 1.21 acres." to Antonio Miguel.

No conveyances appear of record by said Antonio Miguel, nor are there any probate proceedings of his estate or judicial determination of his heirs.

-AS TO THAT PORTION OF THE LAND UNDER SEARCH COVERED BY APANA 1 OF ROYAL PATENT NUMBER 1726, LAND COMMISSION AWARD NUMBER 6849 TO NAHALE:-

Land Commission Award Number 6849 (Apana 1, area: 0.75 acre, and Apana 2, area 2.07 acres) was awarded to one Nahale on October 1, 1852, and Royal Patent Number 1726 was subsequently issued thereon. No conveyances appear of record by said Nahale, and his estate was duly administered in the First Judicial Circuit under Probate

SCHEDULE B CONTINUED

Number 841, an intestacy. Proceedings had in this matter show that he died sometime prior to the year 1856 in Lahaina, leaving no wife or children surviving, except a younger brother named Keawe. On July 3, 1857, said Keawe was declared the heir to the estate of Nahale, and the assets of this estate consisting of two parcels of land mentioned in Land Commission Award Number 6849 were distributed to him. By Deed dated April 1, 1864, recorded in Liber 18 at Page 79, said Keawe, also known as Daniel Keawe, "heir to Nahale", the husband of Sarai Umiokalani, conveyed the same to M. Kekuni (w).

No conveyances appear of record by said M. Kekuhi (w), and of record in the Second Judicial Circuit is Probate Number 755, being the Estate of Kekuhi Aiku, an intestacy. Proceedings filed therein show that she died in the year 1871 in Lahaina and left surviving her husband, Charles Aiku, and two children named Ailimu (w) and Ainea (w). The inventory of her estate lists two parcels of land at Moalii mentioned in the foregoing Deed to her, and on June 20, 1872, the Court ordered the same to be divided between the two heirs, Ailimu and Ainea.

No conveyances appear of record by said Ainea (w), nor are there any probate proceedings of her estate; likewise, there are no judicial proceedings determining her heirs.

By Deed dated November 14, 1895, recorded in Liber 155 at Page 426, K. Ailimu (w), the wife of Mumu, conveyed to Pioneer Mill Company, Ltd., "the parcels of land situate at Lahaina..... which were awarded to Nahale, Royal Patent No. 1726/L.C.A. No. 6849, and which were conveyed by Nahale to Kekuhi (w), my own brother. After her death it was probated before the Circuit Court and it was determined that I and my younger sister, Ainea, were the heirs of the estate, to wit: by these presents I hereby convey Parcel 1, Three fourths acre (3/4 acre), Parcel 2, Three fourths acre (3/4 acre), and one half of the right of my younger sister, who died without issue, to-wit: Sixty-five hundredths acre (65/100 acre); and contained within these shares of land which I hereby convey are two acres and fifteen hundredths (2 15/100 acres)."

SCHEDULE B CONTINUED

By Deed dated March 19, 1898, recorded in Liber 181 at Page 445, one Haona (k) conveyed to Ulikoa (w), his beloved daughter, "the one half share right of Ainea (w), my wedded wife, in and to the parcel of land situate at Moalii..... Royal Patent No. 1726, Land Commission Award No. 6849, and containing an area of 2 acres 3 Roods 11 Links, and this right of Ainea (w) is that which I hereby sell and conveyed absolutely unto Ulikoa." This Deed further recites that, "said M. Kekuhi (w) was the own mother who bore Ainea (w), my wedded wife. On the death of M. Kekuhi, half of her real property was inherited by Ainea (w), her own daughter. And Ainea (w), my wedded wife, died without our having had any children, therefore when said Ainea (w) died I was her sole surviving heir and her right, as stated in this instrument, was inherited by myself and my heirs." No conveyances appear of record by said Ukiloa (w) or by any purported heir or heirs, nor are there any probate proceedings of this estate.

There appears of record a Deed dated August 27, 1904, recorded in Liber 264 at Page 64, from David Kahukula to Henry Maui, Trustee, conveying "the land rights of Nahale, having Royal Patent No. 1726, Land Commission Award No. 6849, at Moalii, Maui." All subsequent deeds in the chain of this title do not refer to the land under search and finally terminates in the Bishop Trust Company, Limited, successor in interest of P. E. R. Strauch, Limited.

4. Ditches, as shown on Tax Maps.
5. Lack of access to the nearest government road.
6. Claims arising out of rights customarily and traditionally exercised for subsistence, cultural, religious, access or gathering purposes as provided for in the Hawaii Constitution or Sections 1-1 or 7-1 of the Hawaii Revised Statutes.

SCHEDULE B CONTINUED

7. LEASE

LESSOR : PIONEER MILL COMPANY, LIMITED, a Hawaii corporation

LESSEE : MAUI ELECTRIC COMPANY, LIMITED, a Hawaii corporation, and GTE HAWAIIAN TELEPHONE COMPANY INCORPORATED, a Hawaii corporation

DATED : October 13, 1967

RECORDED : Liber 5893 Page 226

TERM : 35 years from the date hereof

LEASING : and demising a rights-of-way, each twenty-five (25) feet in width, and the right to build, construct, reconstruct, rebuild, repair, maintain and operate pole and wire lines and/or underground lines, etc.

8. Construction Easement "9" (area 1.401 acres) as shown on survey map prepared by Albert S. Saiki with R. T. Tanaka Engineers, Inc., dated March 31, 1988, November 1, 1988 and March 14, 1989.

9. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct boundary and improvement survey or archaeological study would disclose, including, without limitation, trails, rights of way, historic property and burial sites.

-Note:- It is recommended that a modern metes and bounds survey be made of said premises so that the boundaries can be definitely established.

10. The terms and provisions, including the failure to comply with any covenants, conditions and reservations, contained in the following:

INSTRUMENT : DEED

DATED : November 15, 1993

RECORDED : Document No. 93-188009

SCHEDULE B CONTINUED

11. GRANT

TO : WEST MAUI VENTURE GROUP, a Hawaii limited partnership

DATED : November 15, 1993

RECORDED : Document No. 93-188011

GRANTING : a non-exclusive right and easement in, upon, through, over, under and across that certain premises (the "Easement Area"), as per survey of Albert S. Saiki, Registered Professional Land Surveyor, dated July 9, 1993, said easement being more particularly described as follows:

EASEMENT "A"

AT LAHAINA, MAUI, HAWAII
BEING PORTIONS OF ROYAL PATENT NUMBER 4475
LAND COMMISSION AWARD NUMBER 7713
APANA 25 to V. KAMAMALU
ROYAL PATENT NUMBER 3455
LAND COMMISSION AWARD NUMBER 9795-B
APANA 1 TO KAAUA AND
ROYAL PATENT NUMBER 4388
LAND COMMISSION AWARD NUMBER 8452
APANA 4 TO KEOHOKALO

An easement for access and utility purposes, over and across Parcel 5-A, Kahoma Stream Flood Control Project in favor of Parcel 5-B, Kahoma Stream Flood Control Project and described as follows:

Beginning at the southeast corner of this easement, on the northwesterly side of Lui Street, the coordinates of said point of beginning referred to Government Survey Triangulation Station "LAINA" being 4,516.79 feet south and 1,461.12 feet west and running by azimuths measured clockwise from true South:

1. Along the remainder of Parcel 5-A, Kahoma Stream Flood Control Project on a curve to the left with a radius of 30.00 feet, the chord azimuth and distance being:

SCHEDULE B CONTINUED

- 162° 59' 52" 42.89 feet;
2. 117° 28' 283.79 feet along the remainder of Parcel 5-A, Kahoma Stream Flood Control Project;
3. 238° 30' 70.02 feet along Right-of-Way Parcel 7, Kahoma Stream Flood Control Project;
4. 297° 28' 279.09 feet along Right-of-Way Parcel 7, Kahoma Stream Flood Control Project;
5. Thence, along the remainder of Parcel 5-A, Kahoma Stream Flood Control Project on a curve to the left with a radius of 30.00 feet, the chord azimuth and distance being:
265° 02' 32.18 feet;
6. 53° 36' 15.95 feet along Lui Street;
7. Thence, along Lui Street on a curve to the left with a radius of 230.00 feet, the chord azimuth and distance being:
40° 33' 52" 95.92 feet;
to the point of beginning and containing an area of 18,633 square feet, more or less.

12. MEMORANDUM OF PROFIT INTEREST dated November 15, 1993, recorded as Document No. 93-188012, by and between PIONEER MILL COMPANY, LIMITED, a Hawaii corporation, "PMCO", and WEST MAUI VENTURE GROUP, a Hawaii limited partnership, "Owner".

SCHEDULE B CONTINUED

13. MORTGAGE

MORTGAGOR : WEST MAUI VENTURE GROUP, a Hawaii limited
partnership

MORTGAGEE : FIRST HAWAIIAN BANK, a Hawaii corporation

DATED : November 8, 1993

RECORDED : Document No. 93-188013

AMOUNT : \$1,800,000.00

SCHEDULE C

CT No. 33784

Description of land:

All of that certain parcel of land (being portion of the land(s) described in and covered by Royal Patent Number 1180, Land Commission Award Number 312, Apana 1 to T. Keaweii; Royal Patent Number 1726, Land Commission Award Number 6849, Apana 1 to Nahale; and Royal Patent Number 1860, Land Commission Award Number 6061, Apana 4 to Hanemo) situate, lying and being at Moalii, Aki and Puunoa, Lahaina, Island and County of Maui, State of Hawaii, being A PORTION OF PARCEL 5-B of the "KAHOMA STREAM FLOOD CONTROL PROJECT", and colored in Red on the map marked Exhibit "A" attached hereto and made a part hereof,, bearing Tax Key designation 4-5-010 por. 005 (3).

BEING THE PREMISES DESCRIBED IN QUITCLAIM DEED

GRANTOR : PIONEER MILL COMPANY, LIMITED, a Hawaii corporation
GRANTEE : WEST MAUI VENTURE GROUP, a Hawaii limited partnership
DATED : November 15, 1993
RECORDED : Document No. 93-188009

SCHEDULE D

CT No. 33784

CONDITIONS AND STIPULATIONS

1. This Certificate (which term shall include any Continuation under this number) is a certification of the record title only, as ascertained by an examination limited to the indices described in Schedule A. No liability is assumed for (a) matters which may affect the title but were not disclosed in said indices at the date hereof; or (b) matters created, suffered, assumed, or agreed to by Certificate Holder; or (c) matters not shown herein but actually known to Certificate Holder at the time of acquisition of an estate or interest in the land. The Company makes no certification or representation as to the legal effect, validity or priority of matters shown or referred to herein or in any Continuation hereof.
2. If the Company's certification hereunder is incorrect, the liability of the Company for resulting loss, including any attorney's fees and legal cost shall not exceed the lesser of: (a) the actual loss incurred by Certificate Holder; or (b) the maximum liability amount shown on Schedule A. All payments made under this Certificate shall reduce the liability of the Company by the amount of such payments. Upon payment of any loss hereunder, the Company shall be subrogated to all rights Certificate Holder may have against any person or property as a result of such loss.
3. In case Certificate Holder shall in any manner obtain knowledge of any asserted defect in the title or of any lien or encumbrance or other matter affecting the title, attaching or created prior to the date hereof and not shown herein, Certificate Holder shall promptly notify the Company in writing. Such written notice shall include a statement of any actual or potential loss claimed by Certificate Holder. After receipt of notice of claim, the Company shall be allowed a reasonable time in which to investigate the claim. At its sole option, the Company may litigate the validity of the claim, negotiate a settlement or pay to Certificate Holder the amount the Company is obligated to pay under this Certificate. Any liability of the Company under this Certificate shall be reduced to the extent that a failure to promptly provide the required notice impairs the ability of the Company to defend against or otherwise dispose of any claim adverse to Certificate Holder. Liability hereunder constitutes indemnity only and nothing herein shall obligate the Company to assume the defense of Certificate Holder with respect to any claim asserted against the land or the Certificate Holder.
4. Coverage hereunder is conditioned upon full payment of the Company's charges for this Certificate.
5. This Certificate is the entire contract between Certificate Holder and the Company and any claim by Certificate Holder against the Company, arising out of the status of the title certificate herein shall be enforceable only in accordance with the provisions of this Certificate.
6. Notice required to be given the Company shall include the number of this Certificate and shall be addressed to Ticor Title Insurance Company, P.O. Box 92792, Los Angeles, CA 90009, with copy to Title Guaranty of Hawaii, Inc., P.O. Box 3084, Honolulu, HI 96802.

DATE PRINTED: 7/20/94

DMC/DMC

STATEMENT OF ASSESSED VALUES AND REAL PROPERTY TAXES DUE

NAME OF OWNER: PIONEER MILL CO., LTD
LEASED TO :

TAX MAP KEY

DIVISION ZONE SECTION PLAT PARCEL HPR NO.
(2) 4 5 010 005 0000

CLASS: 5

AREA ASSESSED:

16.683 AC

ASSESSED VALUES FOR CURRENT YEAR TAXES: 1994

This certifies that the records of this division show the assessed values and taxes on the property designated by Tax Key shown above are as follows:

BUILDING	\$	0
EXEMPTION	\$	0
NET VALUE	\$	0
LAND	\$	9,800 HIGHEST & BEST USE
EXEMPTION	\$	0
NET VALUE	\$	9,800
TOTAL NET VALUE	\$	9,800

CURRENT YEAR TAXES:	AMOUNT DUE	CREDIT
1ST INSTALLMENT (DUE 8-20-93) \$	91.20 \$	91.20
2ND INSTALLMENT (DUE 2-20-94) \$	91.20 \$	91.20
TOTAL TAXES: \$	182.40	

PRIOR YEAR TAXES: NONE		
1ST INSTALLMENT (DUE 8-20-92) \$	91.20 \$	91.20
2ND INSTALLMENT (DUE 2-20-93) \$	91.20 \$	91.20
TOTAL TAXES: \$	182.40	

TITLE GUARANTY OF HAWAII, INCORPORATED



Appendices



Appendix A

Marketing Study

KPMG Peat Marwick

Management Consultants

Pauahi Tower, Suite 2100
1001 Bishop Street
Honolulu, HI 96813-3421

Telephone 808 531 7286

Telefax 808 541 9320

January 4, 1994

Mr. Stephen Fulton
West Maui Venture Group
P. O. Box 220
Kihei, Hawaii 96753

Dear Stephen:

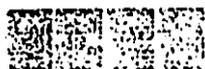
We have completed our market assessment for the development of West Maui Venture Group's approximately 32 net acre industrial park in Lahaina, Maui. The attached report contains the following sections:

- Study Background & Objectives
- Project Rationale and Description
- Maui Economic and Demographic Setting
- Maui Industrial Market Overview
- Projected Industrial Market Assessment

We appreciate the opportunity to assist you in the planning for this development and have enjoyed working with you on this study.

Very truly yours,

KPMG Peat Marwick



Member Firm of
Klynveld Peat Marwick Goerdeler

WEST MAUI VENTURE GROUP
TABLE OF CONTENTS

	<u>Page</u>
STUDY BACKGROUND	1
STUDY OBJECTIVES	1
PROJECT RATIONALE	2
PROJECT DESCRIPTION	2
Zoning	3
Access	3
Lahaina Bypass Highway	4
Bypass Connector Road	4
ECONOMIC AND DEMOGRAPHIC SETTING	5
Island of Maui Historical Population Trends	5
Projected Population and Employment for Island of Maui	5
Maui Island Projected Employment Trends	6
VISITOR ARRIVALS	7
HOTEL DEVELOPMENT IN MAUI	8
MAUI INDUSTRIAL MARKET OVERVIEW	8
Lahaina Industrial Market - Existing Projects	9
Planned Competitive Industrial Projects in Lahaina	9
Vacancies	10
Lease Rents	10
Fee Prices	10
PROJECTED INDUSTRIAL MARKET ASSESSMENT	11
Projected Future Industrial Space Demand In Lahaina	11
Projected Demand for WMVG Project	11
Projected Absorption for the WMVG Project	11
Projected Rental Rates for WMVG Project	12
Targeted Renters for Phase I and Phase II	12
Market Support Summary	13

WEST MAUI VENTURE GROUP

TABLE OF CONTENTS
(CONTINUED)

<u>Exhibits</u>		<u>Following Page</u>
A	Island of Maui	1
B	Regional Location of the West Maui Venture Group Project	1
C	Location of Subject Property	1
D	Historical and Projected Population for Island of Maui by Region	5
E	Historical and Projected Employment by Industry for the Island of Maui	6
F	Westbound Visitors to the Neighbor Islands	7
G	Historical Visitor Arrivals to the County of Maui	7
H	Visitor Arrivals to Maui County	7
I	Existing and Planned Industrial and Technology Parks on Maui	8
J	Inventory of Existing and Planned Industrial Space in Lahaina	9
K	Leasing Statistics of Selected Multi-Tenant Industrial Developments in Lahaina	10
L	Asking Lease Rents for Available Office, Retail and Warehouse Properties in Lahaina	10
M	Fee Simple Sales Price Indicators for Industrial Properties	10
N	Cumulative Industrial Demand and Area Requirements for Island of Maui	11
O	Projected Additional Net Demand for Industrial Space	11
P	Lahaina Business Park Fair Share of Total Industrial Market	12
Q	Estimated Base Rental Rates	12

STUDY BACKGROUND

The West Maui Venture Group purchased and is proposing to develop a 37.7 acre site as a light industrial park to serve the light industrial and commercial needs of the growing Lahaina region on the island of Maui. The Lahaina region is in West Maui which includes the resort areas of Kaanapali and Kapalua, as seen in Exhibit A. Lahaina is about 45 minutes from the Kahului Airport, and less than ten minutes from the West Maui Airport.

The agriculturally designated site is mauka of the Honoapiilani Highway, north of the Lahaina Industrial Park Area and mauka of the Lahaina Industrial Park Area as seen in Exhibit B. The Maui Planning Department has taken the initiative in recommending to the County Council that the subject site be designated as a light industrial area.

In anticipation of the zoning change, West Maui Venture Group (WMVG) purchased the site, and is in communication with necessary government agencies and surrounding land owners in regard to its development. The project has been officially registered as the Lahaina Business Park, and WMVG will be doing business as the Lahaina Business Park (LBP).

The project is planned to be composed of approximately 32 net acres to be developed in two phases. Phase I of the project will consist of 22 acres to be marketed by 1996, and Phase II will consist of 10 additional acres to be marketed before the year 2006.

Exhibit C shows the site of the subject parcel as it relates to Kahoma Stream on the south, the proposed Villages of Lei'ali'i on the north and the proposed Hawaii Omori Mauka Light Industrial Park to the west.

STUDY OBJECTIVES

The objectives of our study were to:

- Assess the market support for industrial space in the Lahaina region in terms of:

Projected market support through 2010, for retail, office and light industrial space.

Projected absorption.

- Assist the project team in validating or refining its development concept for the project including:

Overall project concept and market niches for commercial and industrial space.

Size of lots and mix of use.

CORRECTION

THE PRECEDING DOCUMENT(S) HAS
BEEN REPHOTOGRAPHED TO ASSURE
LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING

STUDY BACKGROUND

The West Maui Venture Group purchased and is proposing to develop a 37.7 acre site as a light industrial park to serve the light industrial and commercial needs of the growing Lahaina region on the island of Maui. The Lahaina region is in West Maui which includes the resort areas of Kaanapali and Kapalua, as seen in Exhibit A. Lahaina is about 45 minutes from the Kahului Airport, and less than ten minutes from the West Maui Airport.

The agriculturally designated site is mauka of the Honoapiilani Highway, north of the Lahaina Industrial Park Area and mauka of the Lahaina Industrial Park Area as seen in Exhibit B. The Maui Planning Department has taken the initiative in recommending to the County Council that the subject site be designated as a light industrial area.

In anticipation of the zoning change, West Maui Venture Group (WMVG) purchased the site, and is in communication with necessary government agencies and surrounding land owners in regard to its development. The project has been officially registered as the Lahaina Business Park, and WMVG will be doing business as the Lahaina Business Park (LBP).

The project is planned to be composed of approximately 32 net acres to be developed in two phases. Phase I of the project will consist of 22 acres to be marketed by 1996, and Phase II will consist of 10 additional acres to be marketed before the year 2006.

Exhibit C shows the site of the subject parcel as it relates to Kahoma Stream on the south, the proposed Villages of Lei'ali'i on the north and the proposed Hawaii Omori Mauka Light Industrial Park to the west.

STUDY OBJECTIVES

The objectives of our study were to:

- Assess the market support for industrial space in the Lahaina region in terms of:
 - Projected market support through 2010, for retail, office and light industrial space.
 - Projected absorption.
- Assist the project team in validating or refining its development concept for the project including:
 - Overall project concept and market niches for commercial and industrial space.
 - Size of lots and mix of use.

The Project is on one of the proposed Lahaina bypass connector roads

REGIONAL LOCATION OF THE WEST MAUI VENTURE GROUP PROJECT

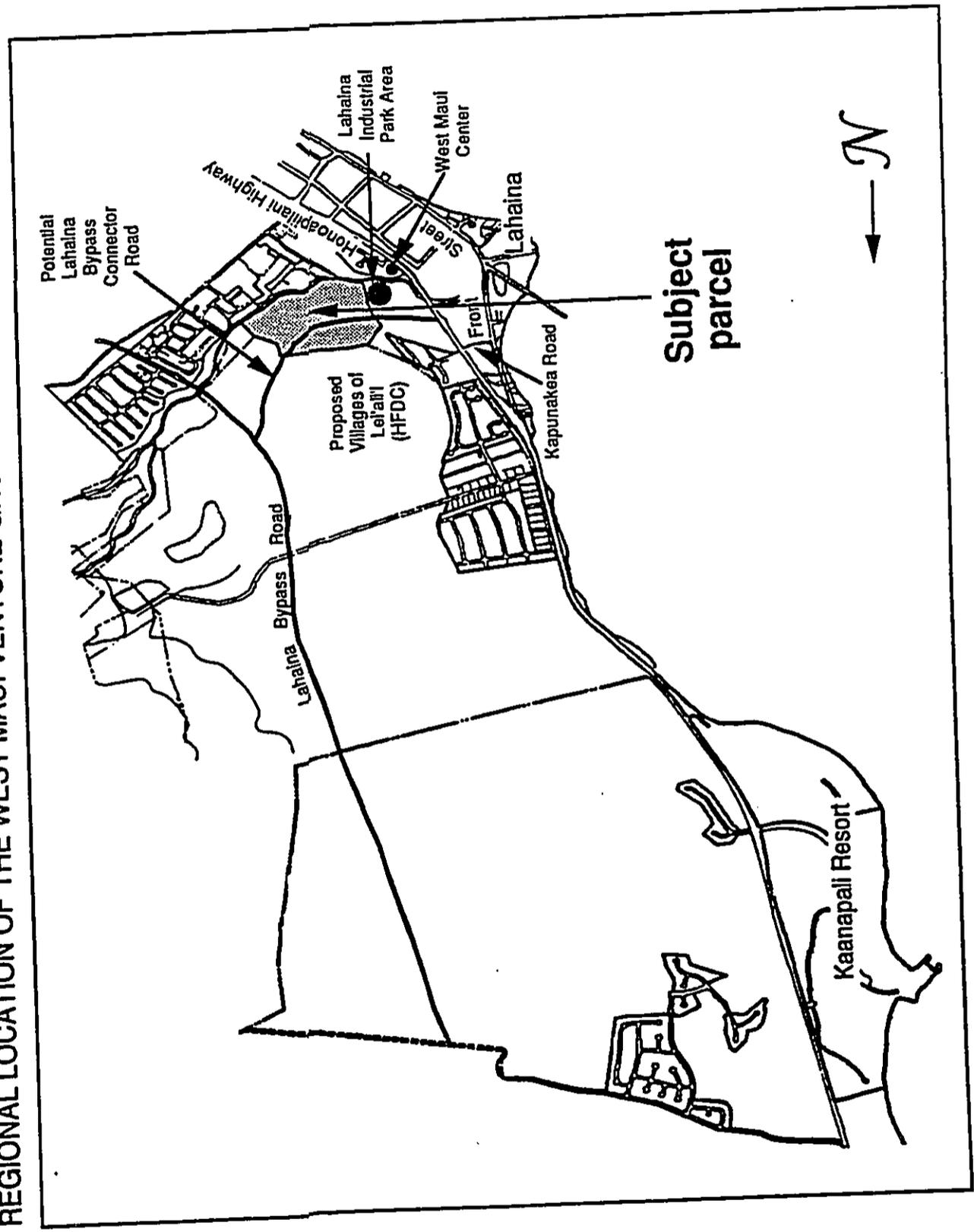
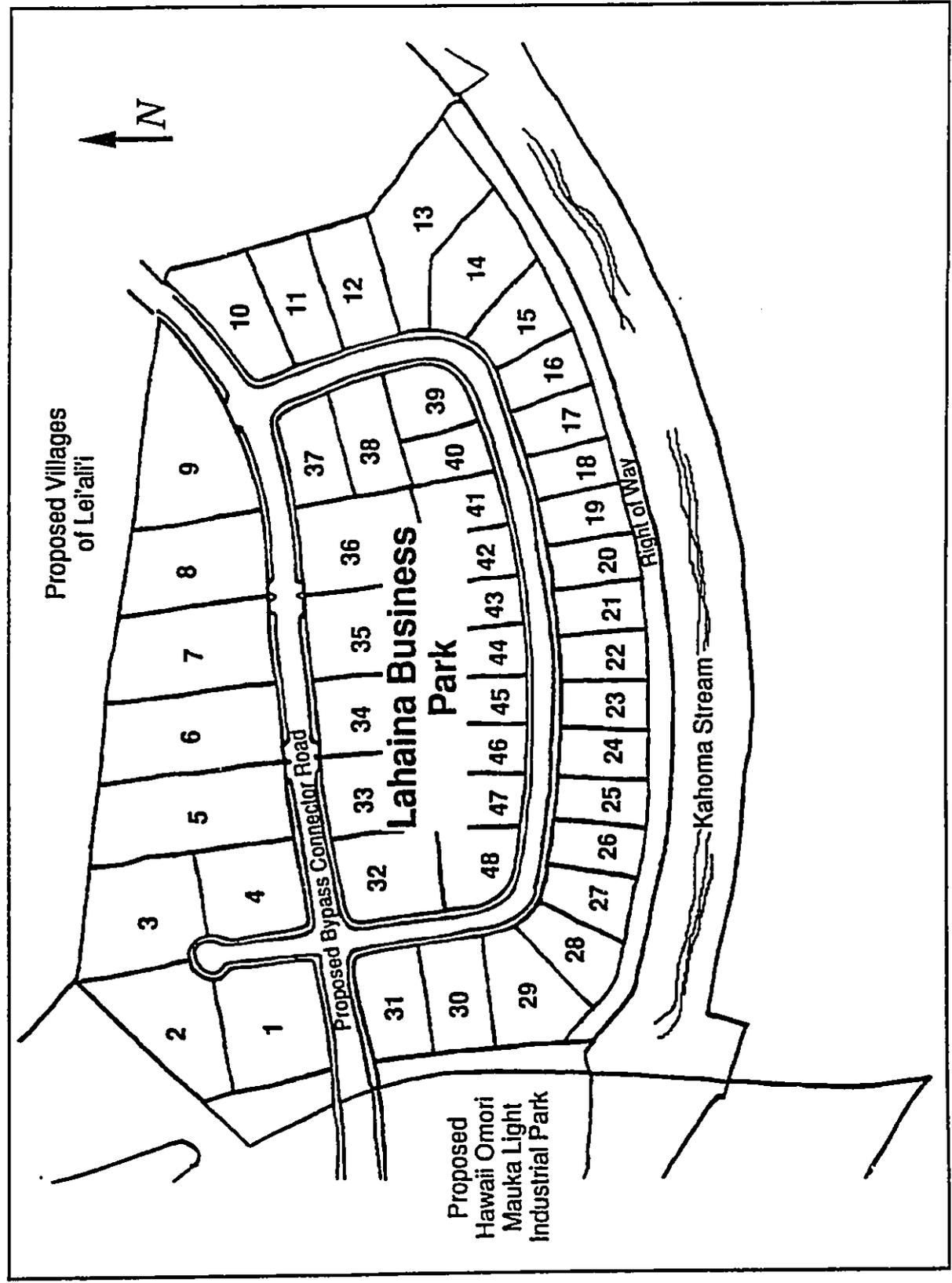


Exhibit C

The Lahaina Business Park is adjacent to the proposed Villages of Le'i'ali'i project by HFDC

PRELIMINARY SUBDIVISION MAP FOR LAHAINA BUSINESS PARK



Source: Warren S. Unemori Engineering, Inc.

PROJECT RATIONALE

The Lahaina area has emerged as an important and sizable residential and tourist area on the island of Maui.

The Lahaina/Kapalua area is currently home to about 15,650 residents with 5,220 households. Additionally, there are just under 10,200 visitor units in the Lahaina to Kapalua area including eleven hotel projects, 38 condominium projects and 23 hotel/condominium projects.

With the growing population base and economic activity generated by the visitor, construction, agricultural and other West Maui industries there is an available "critical mass" to demand a greater need for nearby industrial areas. These industrial parks can provide greater convenience to customers and businesses, as compared to traveling to Kahului or Wailuku. Additionally, there can be a greater response of service and reduced cost and travel time to meet customer demands.

Several other reasons justify the development of additional light industrial space in the Lahaina Region:

- Recent development of the Ritz Carlton Kapalua, and three proposed hotel/condominium projects to be developed over the next ten to fifteen years in the Lahaina region, will increase the need for hotel service businesses that generally require light industrial space.
- Because the supply of industrial space in Lahaina is limited as compared to Kahului or Wailuku, lease rents and fee prices are higher. Lease rents in Lahaina, range from \$1.25 - \$2.00 per square foot, as compared to \$0.55 - \$1.25 per square foot.
- The on-going development of the Villages of Lei'ali'i, a master planned community involving 3,750 residential units plus community support facilities, will bring population and employment growth to the Lahaina area, directly increasing the demand for industrial/commercial space.
- The 37.7-acre WMVG site is the only non-urban parcel in the area except for a 17-acre right-of-way between the subject site and Kahoma Stream. All adjacent parcels including the Hawaii Omori, HFDC, and Lahaina Industrial Park areas are currently designated urban. Thus, the urban reclassification of the WMVG site would be consistent with surrounding land uses.

PROJECT DESCRIPTION

The West Maui Venture Group property is a 37.7 acre site, of which approximately 32 net acres will be developable as industrial lots. The development will occur in two phases over a course of ten to twelve years.

The property is bordered by the Kahoma Stream Flood Control Channel on the south. Hawaii Omori Corporation owns an industrially zoned 27 acre parcel makai of the subject site. Housing Finance and Development Corp. (HFDC) owns 1,120 acres mauka and north of the subject property. HFDC has already completed the site work on this property

for phase I of the Villages of Lei'ali'i, an affordable master-planned community of 3,750 residential units.

Phase I of the proposed light industrial project is planned to consist of obtaining proper zoning and entitlements, including subdivision approvals. The development and marketing of the first 22 acres is planned to begin in 1996 to 1997. The initial lots will be located along the Main Road (anticipated to be the proposed Lahaina Bypass Connector Road discussed below). The first phase will be subdivided into 1/4 to 5 acre lots, and will be marketed to automotive, flex space office, retailers and restaurants.

Phase II will involve the subdivision of the remaining ten acres into 1/4 to 4 acre lots. It will be located on the south side of the property along the Kahoma Stream Channel. Because this parcel is removed from the primary road and will be accessed by a secondary road, anticipated users of these lots will be businesses needing less exposure, such as storage facilities, distribution center, lumber yards and baseyards.

Zoning

The parcel is agriculturally designated and the Maui Planning Department has initiated the process of changing the zoning to urban/light industrial. Except for the right-of-way along Kahoma Stream, the properties surrounding the subject site have an urban designation, and include properties that have a light industrial zoning. Brian Miskae, Planning Director for Maui County is a proponent of the change and has recommended it the County Council.

WMVG will be seeking an M-1 zoning which allows the development of commercial buildings defined as B-1, B-2, and B-3; and light industrial space.

Other restrictions of the M-1 zoning are summarized below:

- **Parking requirements:**

- Shopping centers greater than 2,000 square feet in size:
1 space per 200 square feet.

- Shopping centers less than 2,000 square feet in size:
1 space per 500 square feet.

- Restaurants: 1 space per 100 square feet.

- **Height limit:**

- No buildings over 48' feet, or no higher than 1.5 times the frontage roadway.

- **Floor area ratio (FAR):**

- No maximum limits imposed by the County. Typical industrial FARs for like spaces are 0.3 to 0.85 times.

Access

The subject site is located about 800 feet mauka of the existing Honoapiilani Highway. The parcel is currently land-locked by the Hawaii Omori site and an access road must be built to the Honoapiilani Highway. In addition, a major highway running from Puamana to Honokawai is currently in pre-development. These two major proposed roadways would impact the access, visibility, and market attractiveness of the proposed WMVG project and are discussed below.

Lahaina Bypass Highway

The Department of Transportation (DOT) is planning the construction of a Bypass Highway which will extend from Puamana to Honokawai, allowing traffic that usually clogs the Honoapiilani Highway in the Lahaina town area, to bypass the town and continue directly to Kaanapali and beyond. The DOT has plans to start construction of the Bypass Highway by 1998. The department has had difficulty in financing the project and is now in the process of applying for federal aid. The project must meet federal requirements and an EIS must be prepared before approval and funding of the project is finalized. If federal aid is granted in time for a 1998 construction start, completion of the Bypass to Honokawai is expected by the year 2000.

Bypass Connector Road

The construction of the Bypass Highway is significant to the WMVG property in that it will bring more traffic and customers to the north Maui area, and would allow easy access from the highway directly to the subject property.

Two Bypass connector roads would be constructed in Lahaina town to connect Honoapiilani Highway and the Bypass. The first road would be directed through the Civic Center area, just north of the subject property, and the second road is planned to skirt the north edge of the property and connect to Kapunakea Road. There is, however, a proposal by the Maui Planning Department to realign the current connector at Kapunakea Road to a position that will bisect the WMVG property as discussed in detail below.

Alignment of the Connector Road through WMVG's property would be a significant asset to the project. WMVG is negotiating with the surrounding land owners, Hawaii Omori and the Housing, Finance and Development Corporation, and with the Maui Planning Department to realign the Kapunakea connector road. WMVG has had extensive and positive communications with both Hawaii Omori and HFDC and is working to ensure the most favorable location for the connector road and to minimize costs for all parties involved.

A realigned road would bisect both the WMVG property and the Hawaii Omori property creating a commercial corridor with double roadside frontage for Hawaii Omori and WMVG. For this reason, the plan for realignment is generally well-received by all parties.

There are several other reasons that support the realignment of the Connector Road:

- Kapunakea Road is a two lane road that runs through a residential neighborhood. The Lahaina Citizens Advisory Council has recommended to the Maui Planning Commission and the Maui Planning Department that the Connector Road should be realigned to avert traffic from the quiet Kapunakea residential subdivision to the industrially zoned WMVG and Omori sites.

- The Planning Department is in agreement with the advantages of the proposed realignment and is prepared to recommend to the DOT a change in plans. Although the DOT will not have a role in the decision making of the alignment, they are involved so that alignment of the Connector Road matches the overall plan for the Bypass Highway.
- Hawaii Omori will also benefit from the realignment of the Connector Road, since it would bisect their property and provide frontage on a main road.

ECONOMIC AND DEMOGRAPHIC SETTING

Maui was a great benefactor of the economic growth during the 1970s and 1980s. Its population increased nearly 240% between 1970 and 1990, along with corresponding increases in industry, housing and business receipts.

The visitor industry represents the largest source of revenue for the Hawaiian islands. The Lahaina region, including Kapalua and Kaanapali, has been and continues to be the strongest destination resort in Hawaii outside of Waikiki. From the historic landmark of Old Lahaina Town, to Kapalua Resort, given a 1993 Award of Excellence for one of the most outstanding resort developments in the country by the Urban Land Institute; Lahaina offers a desired vacation spot for westbound, eastbound, and local visitors alike.

Island of Maui Historical Population Trends

The growth in population on Maui clearly reflects the desirability of the island and the expansion of the economic base due to the visitor industry as shown in Exhibit D. Population grew 62% between 1970 and 1980, and another 45% between 1980 and 1990. This represents a 5% compound annual growth rate for the first ten year period, and another 4% for the second. Other population characteristics include:

- Lahaina shows increasing importance as its share of total population increased between 1970 and 1990 from 14.3% to 16.0%, with a high of nearly 18.0% in 1985.
- The Kihei-Makena region, including Wailea, became a significant growth area in the late 1980's through the 1990's when tourism discovered the calm and extensive white sand beaches of this region. During this period nearly 2,500 hotel rooms were added at five major hotel/resorts including, the Grand Hyatt Wailea, Four Seasons Resort Wailea, and the Maui Prince Hotel in Makena. Population in this area in 1990 was 17% of the total island, accounting for the shift in growth from Wailuku-Kahului and other regions of Maui.
- Aside from the Kihei-Makena region, which was not tracked as a separate census area prior to 1990, Lahaina showed the greatest amount of growth between 1970 and 1990.
- The only area showing a decline in growth are the rural areas of Makawao, Pukalani and Kula.

Projected Population and Employment for Island of Maui

The Maui County Planning Department periodically updates their economic and population trends for the county of Maui in order to assess the status of their General Plan

EXHIBIT D

Lahaina was the fastest growing region on Maui between 1970-1990; its share of the total population is projected to grow from 1990-2010

HISTORICAL AND PROJECTED POPULATION FOR ISLAND OF MAUI BY REGION

	Historical(1)					Projected(2)					Compound annual percentage increase			
	1970	1980	1985	1990	1995	1996	2000	2005	2010	1970 to 1980	1980 to 1990	1990 to 2000	2000 to 2010	
Lahaina	5,524	10,284	13,577	14,574	16,593	16,978	18,555	20,337	21,149	6.4%	3.5%	2.4%	1.3%	
Kihei-Makana	N/A	N/A	N/A	15,365	17,658	18,094	19,885	21,908	22,830	N/A	N/A	2.6%	1.4%	
Waikuku-Kahului	22,219	32,111	39,270	32,816	36,520	37,225	40,119	43,387	44,876	3.8%	0.2%	2.0%	1.1%	
Makawao-Pukalani-Kula	9,879	19,005	22,129	18,923	20,273	20,530	21,584	22,775	23,318	6.7%	0.0%	1.3%	0.8%	
Pala-Haiku	N/A	N/A	N/A	7,788	8,437	8,561	9,068	9,641	9,902	N/A	N/A	1.5%	0.9%	
Hana	969	1,423	1,654	1,895	2,034	2,061	2,170	2,293	2,349	3.9%	2.9%	1.4%	0.8%	
Total	38,691	62,823	76,630	91,361	101,515	103,449	111,381	120,341	124,424	5.0%	3.8%	2.0%	1.1%	
Lahaina as a percentage of total	14.3%	16.4%	17.7%	16.0%	16.3%	16.4%	16.7%	16.9%	17.0%					

(1) U.S. Bureau of the Census, Census of Population, 1991.

(2) Community Resources, Inc., Maui County Community Plan Update Program Socio-Economic Forecast Report, August 1992

and make any necessary changes and amendments. In August 1992, Community Resources, Inc., (CRI), produced the Maui Socio-Economic Forecast projecting trends in population, employment, visitor population, housing and housing demand for targeted years between 1995 and 2010.

Two sets of projections were reported. The Unconstrained Forecast based on the M-K projections produced by the Hawaii State Department of Business and Economic Development, shows the consequences of existing trends in economic and population growth without consideration of restrictions on growth caused by government regulation, infrastructure or other limiting factors. These projections seem consistent with historical trends, and because they are produced by the State, they are official projections and are used for State and County planning.

CRI also makes a Constrained Forecast based on economic and population growth as restricted by the amount of developable lands zoned for visitor units and residential units. CRI's forecast is consistent with the Constrained Forecast produced by Wilson Okamoto and Associates in their "Land Use Forecast Technical Study", also prepared for the Maui Planning Department for the Community Plan Update. Based on an inventory of limited developable lands, an argument is made that, over the long term, growth will be constrained by the lack of developable lands, and population and economic growth will be limited by these forces.

Wilson Okamoto's Land Use Forecast, which is referred to later in the report, uses the CRI Constrained and Unconstrained forecasts to project the demand for industrial land in Maui. The Constrained forecast shows industrial land demand as limited by such events as governmental intervention, or restraint by limited resources or infrastructure. The Unconstrained forecast is a long term perspective reflecting the market demand for industrial land.

For the purposes of this report, the Constrained and Unconstrained Land Use forecasts which are identical throughout the 1995-2005 period, were used to establish a range for industrial land demand. Thereafter, from 2005 to 2010 the Unconstrained forecast was used to reflect the need for industrial land as dictated by long term market demand which is not dictated by the availability of developable land.

By 2000, the population on the island of Maui would grow to 111,400, an increase of 22.0% from 1990. By 2010, the population would exceed 124,400; another 12.0% increase from 2000. Between 1990 and 2000, the compound annual growth would be 2.0% per year, and between 2000 and 2010 it would increase 1.1%.

In the future, the Lahaina, Kihei-Makena, and Wailuku-Kahului areas would sustain the most continued growth; with the Lahaina and Kihei-Makena areas experiencing the most growth. Lahaina's importance relative to the island's total population is projected to increase steadily over the years, increasing from less than 16.0% of total population in 1990, to 17.0% in 2010, as also shown in Exhibit D.

Maui Island Projected Employment Trends

By industry, different employment sectors experience different levels of growth. Construction would slow as the community matures, and service oriented jobs would increase to accommodate the growing population. Employment trends have been projected by CRI by industry through 2010, as seen in Exhibit E, and show the following:

EXHIBIT E

Industrial employment is estimated to represent about 20% of Maui's total employment

HISTORICAL AND PROJECTED EMPLOYMENT BY INDUSTRY FOR THE ISLAND OF MAUI(1): 1990 TO 2010

	Historical		Projected			Compound annual percentage increase	
	1990	1995	2000	2005	2010	1990 to 2000	2000 to 2010
Sectors that contribute to industrial employment:							
Construction	3,047	1,801	2,045	2,240	2,303	(3.9%)	1.2%
Manufacturing	1,929	2,020	2,050	2,050	2,050	0.6%	0.0%
Services(1)	2,340	2,473	2,951	3,354	3,633	2.3%	2.1%
Trade(2)	1,336	1,445	1,681	1,877	1,934	2.3%	1.4%
Transportation, communication, utilities	2,823	3,009	3,329	3,513	3,587	1.7%	0.7%
Estimated industrial employment	11,470	10,750	12,060	13,030	13,510	0.5%	1.1%
Other sectors:							
Agriculture	2,174	2,908	2,887	2,987	2,986	2.9%	0.3%
Banking and finance	3,108	3,722	4,115	4,412	4,362	2.8%	0.6%
Services	8,637	8,452	9,231	9,793	9,967	0.7%	0.8%
Hotels	5,459	5,769	6,887	7,826	8,476	2.3%	2.1%
Other services	12,020	13,008	15,129	16,897	17,408	2.3%	1.4%
Trade	4,764	4,843	5,340	5,782	5,777	1.1%	0.8%
Government	414	461	461	461	461	1.1%	0.0%
State/local	3,708	4,037	4,199	4,468	4,471	1.3%	0.6%
Federal	40,285	43,200	48,249	52,626	53,908	1.8%	1.1%
Self-employed Subtotal	51,750	53,950	60,310	65,660	67,420	1.5%	1.1%
Total employment, rounded							
Estimated percentage of industrial employment to total employment	22%	20%	20%	20%	20%		

(1) As reported by Wilson Okamoto & Associates, Inc., 30% of other services in the services sector is allocated to industrial activity.
 (2) As reported by Wilson Okamoto & Associates, Inc., 10% of total trade employment allocated to industrial activity.
 Source: Community Resources, Inc., "Maui Community Plan Update Program Socio-Economic Forecast Report, Volume 1," August 1992.

- During the period shown, total employment would increase 17.0% from 1990 to 2000; and 12.0% from 2000 to 2010.
- Industries contributing to industrial employment include construction, manufacturing, services, trade, transportation, communication and utilities.
- Industrial employment, which would determine the need for industrial acreage, would grow at a compounded annual rate of 0.5% per year between 1990 and 2000; and for the period between 2000 and 2010, it would increase 1.1% annually.
- Trade and service related employment would increase the most over the next ten year period, with annual growth rates of 2.3% through 2000; trade would increase 1.4% over the next ten year period through 2010, and services would increase 2.1%.
- The construction industry which in 1990 employed 27% of the total industrial employment sector would experience steady decline, as the community matures and less construction takes place. Through 2000, construction employment is expected to decrease 3.9%.
- Agriculture would grow at an annual rate of 2.9% through 2000, and would slow to 0.3% growth between 2000 and 2010.
- Banking and finance sectors would experience nearly identical growth patterns as that of agriculture with a 2.8% annual growth rate through 2000, that would slow to a 0.6% growth rate between 2000 and 2010.
- The industrial employment sector consistently accounts for 20% of total employment throughout the period surveyed.

VISITOR ARRIVALS

After its peak in 1989, tourism in the islands has reflected the general malaise in the economy through the 1990's. Still, visitors to the neighbor islands choose Maui over two times more than the island of Hawaii, and three times more than Kauai, as seen in Exhibit F. The visitor arrivals to Maui in 1993 are estimated to be 2,351,700, up 0.4% from a year ago, as seen in Exhibits G and H. Tourism seems to be making a slight turn for the better as arrivals have been increasing for the last two years, from its low of 2,322,060 in 1991. Although business seems to be improving, economists feel that the recovery will be slow to sideways over the next couple of years as the California, mainland U.S. and Japan economies begin to improve.

Westbound arrivals have decreased at a compound annual rate of 3.5% between 1990 and 1992, clearly reflecting the weakened mainland economy. A decrease in airline flights from the mainland has also hurt visitor arrivals to Hawaii. Eastbound visitors on the other hand have increased an average annual compounded rate of 10.6% over the same period. For the period between 1990 and 1993, eastbound arrivals are expected to have increased an estimated 28%. Where westbound arrivals once made up 84.0% of total visitors to Maui in 1989, that percentage has decreased to 78.4% in 1993.

Visitors to the neighbor island tend to be repeat visitors to the islands. Given this trend, it is likely that Maui will continue to attract visitors from the Far East at an increasing rate;

Exhibit F

Maui has the second highest number of visitor arrivals behind Oahu

WESTBOUND VISITORS TO THE NEIGHBOR ISLANDS: 1980 to 1993

	Oahu	Neighbor island counties			Total
		Hawaii	Maui (1)	Kauai	
1980	2,398,737	761,103	1,378,189	781,409	2,920,701
1981	2,398,477	672,683	1,389,892	757,811	2,820,386
1982	2,589,190	678,170	1,550,080	733,295	2,961,545
1983	2,590,980	714,030	1,645,720	692,130	3,051,880
1984	2,901,320	760,940	1,854,690	814,590	3,430,220
1985	2,828,640	697,380	1,831,110	832,580	3,361,070
1986	3,146,030	786,930	2,001,870	1,014,650	3,803,450
1987	3,078,500	782,550	1,908,780	1,032,840	3,724,170
1988	3,013,850	782,360	1,884,050	1,043,710	3,710,120
1989	3,205,800	946,540	2,113,100	1,138,230	4,197,870
1990	3,171,630	982,900	1,995,160	1,118,930	4,096,990
1991	2,899,170	975,610	1,925,460	1,085,290	3,986,360
1992	2,534,440	909,490	1,859,680	714,880	3,484,050
1993(2)	2,416,955	932,373	1,843,769	322,708	3,098,850
Compound annual % increase:					
1980 to 1990	2.8%	2.6%	3.8%	3.7%	3.4%
1990 to 1992	(10.6%)	(3.8%)	(3.5%)	(20.1%)	(7.8%)
1992 to 1993	(4.6%)	2.5%	(0.9%)	(54.9%)	(11.1%)

(1) Includes the islands of Molokai and Lanai.

(2) Includes visitor counts through September 1993 and are annualized based on 1992 visitor arrivals thereafter.

Source: Hawaii Visitors Bureau, "Westbound Visitors to Hawaii by Island," annual.

EXHIBIT G

Westbound visitor arrivals have been declining since 1990, yet eastbound visitors have increased annually

HISTORICAL VISITOR ARRIVALS TO THE COUNTY OF MAUI: 1980-1993

Year	Westbound	Percentage change	Eastbound(1)	Percentage change	Total	Percentage change
1980	1,378,189	--	--	--	1,378,189	--
1981	1,389,892	0.8%	--	--	1,389,892	0.8%
1982	1,550,080	11.5%	--	--	1,550,080	11.5%
1983	1,645,720	6.2%	--	--	1,645,720	6.2%
1984	1,854,690	12.7%	--	--	1,854,690	12.7%
1985	1,831,110	(1.3%)	--	--	1,831,110	(1.3%)
1986	2,001,870	9.3%	--	--	2,001,870	9.3%
1987	1,908,780	(4.7%)	--	--	1,908,780	(4.7%)
1988	1,884,100	(1.3%)	--	--	1,884,100	(1.3%)
1989	2,113,100	12.2%	400,860	--	2,513,960	--
1990	1,995,200	(5.6%)	394,810	(1.5%)	2,390,010	(4.9%)
1991	1,925,460	(3.5%)	396,600	0.5%	2,322,060	(2.8%)
1992	1,859,680	(3.4%)	482,660	21.7%	2,342,340	0.9%
1993(2)	1,843,769	(0.9%)	507,924	5.2%	2,351,693	0.4%

Compound annual percentage change:

1980 to 1985	5.8%	--	5.8%
1985 to 1990	1.7%	--	5.5%
1990 to 1992	(3.5%)	10.6%	(1.0%)
1980 to 1992	2.5%	--	4.5%

(1) Tracking of the number of eastbound visitors to the island of Maui began in 1989.

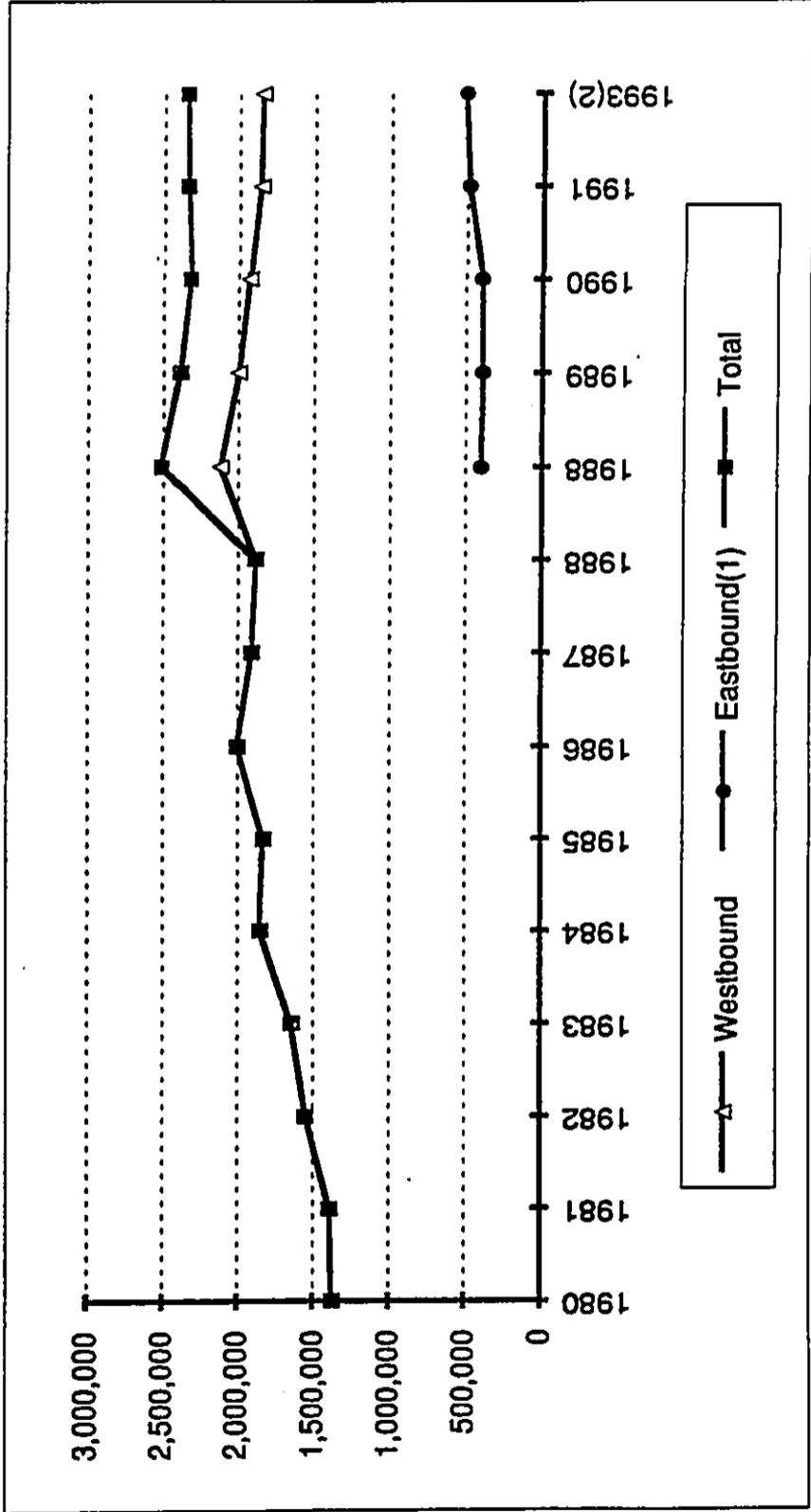
(2) Estimated based on the number of visitors through September 1993 and annualized based on historical information.

Source: Hawaii Visitors Bureau, "Island Supplement," annually.

EXHIBIT H

Total visitor arrivals to Maui have increased since 1991

VISITOR ARRIVALS TO MAUI COUNTY: 1980 TO 1993



(1) Tracking of the number of eastbound visitors to the island of Maui began in 1989.
 (2) Estimated based on the number of visitors through September 1993 and annualized based on historical information.
 Source: Hawaii Visitors Bureau, "Island Supplement," annual.

these are visitors who tend to spend more dollars per day than those traveling from the west.

HOTEL DEVELOPMENT IN MAUI

Hotel development in Maui excellerated sharply during the 1980's, more than doubling the supply of units from 9,706 in 1980, to 20,317 in 1993. In the heat of the market, visitor units increased over 38% between 1984 and 1990, or 5.6% per year. Since that time, visitor units have increased only 3.8% per year.

Two hotels opened in Maui in 1993. They are the 264-unit Maui Coast Hotel in Kihei and the 550 room Ritz Carlton Kapalua.

Plans for an additional three hotels/condominiums in the north beach area of Maui will occupy approximately 95 acres, and are planned to be developed between the years 2000 and 2010. This can add a maximum of 3,200 additional visitor units to the Lahaina region.

The Kaanapali Beach Hotel has also received approval to construct an additional 215 rooms to the existing hotel; however, plans for the renovation have been put on hold.

MAUI INDUSTRIAL MARKET OVERVIEW

There are 359 acres of industrial parks on the island of Maui, of which 285 acres are in the Wailuku-Kahului area. Most of the concentration of industrial land surrounds the central business district of Wailuku-Kahului, near the Kahului Airport and the Kahului Harbor, as seen in Exhibit I.

Alexander and Baldwin (A&B), the largest developer and owner of industrial acreage has the 200 acre Kahului Industrial Area, and has another 176 plus acres planned for future development. Kahului Industrial Park, a 76 acre park with 60 net acres available for market, will be completed by the second quarter of 1996. A&B also has another 100 plus acres planned for release between 1997 and 1999.

Outside of Kahului and Wailuku, only 74 acres of industrial land exist, and they are located in Kihei and Lahaina. The Maui Research and Technology Park in Kihei, developed in 1990, is a 60 acre park with a Special Research and Technology zoning; another 270 acres are planned for future development and will also have the same Special Research and Technology zoning.

The 10.7 acre Lahaina Industrial Park was originally developed in the early 1970's by Amfac, Inc., and was sold in fee to various owners. Since that time another 3 acres of industrial land have been added to the inventory for a total 14 acres in the Lahaina area.

Three separate developers have plans to add a total 69 acres of industrial park in the Lahaina region. Hawaii Omori has plans for a 27 acre park in Lahaina, although these plans have been put on hold. Harold Hardcastle has plans for the 9.65 acre Napili Trade Center, near Kapalua; however this property has been listed for sale at \$6.2 million. Finally, the West Maui Venture Group is actively seeking development of 32 acres in Lahaina.

There are 359 acres of industrial parks on Maui, and over 500 acres are planned for future development

EXISTING AND PLANNED INDUSTRIAL AND TECHNOLOGY PARKS ON MAUI

Name	Location	Developer	Zoning	Acreage	Year developed
Existing industrial projects:					
Kahului Industrial Area	Kahului, less than 1 mile from Kahului Airport and Harbor	Alexander & Baldwin	M-2	200	1965-1992
Wailuku Industrial Park	Wailuku, 4 miles from Kahului Airport and Harbor	C. Brewer	M-1	55	1978
Millyard Subdivision	Wailuku, 5 miles from Kahului Airport and Harbor	C. Brewer	M-1	30	1986
Maui Research and Technology Park	Kihei, site is 12 miles from Kahului Airport and Harbor off Piilani Highway	Maui R&T Partners	Special Research & Technology	60	1990
Lahaina Industrial Park (1)	Lahaina, 4 miles from Kapalua-West Maui Airport	Amlac Inc.	M-1	14	Early 1970's
			Subtotal	359	
Planned industrial projects:					
Kahului Industrial Park	Kahului, less than 1 mile from Kahului Airport and Harbor	Alexander & Baldwin	M-1	76	1996
Kahului Industrial Park II	Kahului, less than 1 mile from Kahului Airport and Harbor	Alexander & Baldwin	M-1	100	1997-1999
Maui Research and Technology Park	Kihei, site is 12 miles from Kahului Airport and Harbor	Mattenbrink	Special Research & Technology	270	n/a
Lahaina Business Park	Lahaina, 4 miles from Kapalua-West Maui airport	West Maui Venture Group	M-1	32	1996
Mauka Light Industrial Park	Lahaina, 4 miles from Kapalua-West Maui airport	Hawaii Omori	M-1	27	n/a
Napili Trade Center (2)	Napili, less than 2 miles from Kapalua-West Maui Airport		M-1	9.65	n/a
			Subtotal	515	
Total existing and planned projects				874	

(1) Lahaina Industrial Park was sold in fee to various owners in the early 1970's. Most parcels

(2) Property currently for sale and is listed at \$6.2 million.

are owner occupied; some parcels are occupied by multi-tenant industrial centers as listed in Exhibit I.

Source: Department of Business, Economic Development and Tourism, "Directory of Industrial and Technology Parks 1991", 1991.

Lahaina Industrial Market - Existing Projects

There are fourteen acres of industrial park land in Lahaina, of which eight acres are single tenant/owner occupied sites. The remaining six acres are occupied by several multi-tenant centers. They are the Lahaina Trade Center, the West Maui Center, and Mind's Eye Square, as shown in Exhibit J.

The multi-tenant centers offer a combined 103,500 square foot of net leasable area; owner occupied parcels supply another 110,100 square feet of industrial space to the total market.

Planned Competitive Industrial Projects in Lahaina

There are two planned industrial projects that would directly compete with the Lahaina Business Park. They are the Napili Industrial Park and the Hawaii Omori Mauka Light Industrial Park.

The proposed Napili Industrial Park, currently known as Rainbow Ranch, is located between Kaanapali and Kapalua. Although the property has light industrial zoning, no building permits have been filed. Also, the property has been listed for sale at \$6.2 million for 9.65 acres, so it appears the owner has no intention to develop it. However, this does not preclude development by a new owner.

Should a new owner of the Napili property proceed with development, he will face the following conditions:

- The property sits on a 20%+ slope. Engineering studies will be needed to determine the buildable portion of the site.
- Financing is difficult to attain for most development today.
- A drainage system able to accommodate a 100 year storm must be constructed.
- Water, sewer, electricity, telephone, and roads are needed.
- The new owner will also have to meet all these conditions and have the product ready for sale before 1996, in order to compete with the Lahaina Business Park.

Hawaii Omori owns the property adjacent to the WMVG site, which sits between the subject property and the Honoapiilani Highway. They have plans to develop 27 acres of the 35 acre site as a light industrial park called Hawaii Omori Mauka Light Industrial Park. Tentative plans call for completion of development to occur in 1996; however, no financing is available and the plans have been put on hold.

Hawaii Omori has two other properties in the Lahaina area. They are The Lahaina Cannery Shopping Center, a retail center makai of the Honoapiilani Highway and across from their vacant site, and the West Maui Center, a commercial/industrial center south of the Lahaina Trade Center.

EXHIBIT J

Lahaina has 14 acres of industrial land currently, with another 82 acres planned for development

INVENTORY OF EXISTING AND PLANNED INDUSTRIAL SPACE IN LAHAINA

	Location	Developer	Zoning	Date completed	Land area (acres)	Net leasable area (sf)
Existing Industrial Centers:						
Lahaina Trade Center	Lahaina, at the corner of Wilk Ko and Limahana Place	Amlac Inc.	M-1	Early 1970's	0.93	19,800
West Maui Trade Center	Lahaina, on Honospiliari Highway, south of Lahaina Trade Center, mauka of The Cannery	Hawaii Omori	M-2	1982	3.50	36,800
Mind's Eye Square Bldg #1 Bldg #2	Lahaina, on Limahana and Hinau St.	Joseph Loseberg	M-1	1992	0.93	22,500 11,317
Lahaina Industrial Center	Lahaina, on Wilk Ko Place	Norman Kay	M-1	1985-86	0.57	13,104
Other owner occupied parcels (1)	Lahaina	Various	M-1	n/a	7.96	110,145
				Subtotal	<u>13.89</u>	<u>213,656</u>
Planned Industrial Parks:						
Lahaina Business Park	Lahaina, north of Kahoma Stream, mauka of Mauka Light Industrial Park	West Maui Venture Group	M-1	1996	32.00	n/a
Mauka Light Industrial Park	Lahaina, north of Kahoma Stream, mauka of Honospiliari Highway	Hawaii Omori	M-1	1995-1996	27.00	n/a
Napili Trade Center (2)	Napili, less than two miles from Kapalua-West Maui Airport	n/a	M-1	n/a	9.65	n/a
				Subtotal	<u>68.65</u>	
				Total existing and planned acreage	<u>82.54</u>	

(1) Privately held industrial properties, see Exhibit I for detail.
 (2) Property currently for sale and is listed at \$3.2 million.
 Note: n/a = Information not available.
 Sources: Discussions with developer representatives and brokers.

Vacancies

Of the approximately 213,666 square feet of existing building area in Lahaina, between 10% and 11% is vacant as of October 1993. According to property owners and brokers in Lahaina, vacancies have nearly doubled since 1991 when vacancy rates had typically been 5.0% or less.

Vacancies have increased due to the recession, and have been evident in business closures and downsizing of existing businesses. Small businesses in multi-tenant industrial centers are more likely to close and vacate their space than are occupants of owner-occupied industrial properties in Lahaina. Thus, it can be presumed that multi-tenant properties are likely to have higher vacancy rates than owner-occupied properties, however the overall rate is near 11% in Lahaina.

Lease Rents

Asking base rents in Lahaina multi-tenant projects range from \$1.11 to \$2.00, and are negotiable, as shown in Exhibit K. Present economic conditions have favored renters and lessors and landlords have had to negotiate lower rents or offer favorable concessions to tenants in order to lease space in the past two years.

Rents differ depending upon the type of space offered, whether it be for retail, office or warehouse space. Retail rents are most expensive with asking rents ranging from \$1.45-\$2.00. Office space rents are comparable to retail space on the high end, but can be found at lower asking rents when the space is at a less desirable location, as on a second floor; these rents range from \$1.00 to \$2.00. Warehouse space is available for asking base rents of \$1.00 to \$1.35, as seen in Exhibit L.

Because space is less available in Lahaina, the rents remain higher there than on other parts of the island. Lease rents in Lahaina are significantly higher than the \$0.50 to \$1.25 that is demanded in the Kahului and Wailuku areas.

Fee Prices

In the early 1970s, Lahaina industrial lots had been offered in fee. However, since 1990 there have been no vacant lot sales in the area of fee simple or leasehold land.

Other properties sold in the Wailuku and Kahului areas over the past three years have been in the \$25 - \$40 per square foot range, with typical prices in Wailuku being lower than those in Kahului. Most parcels were 1/4 to 1/2 an acre in size, although in 1993 there were two large lot sales in the Kahului area. A 2.4-acre parcel sold for \$37 per square foot, and a 1.5-acre site sold for \$33 per square foot, as seen in Exhibit M.

Since there were no sales comparables in the Lahaina area of vacant industrial land, a comparison of lease rents was used to estimate the premium for Lahaina industrial properties over Kahului/Wailuku properties. The premium in Lahaina lease rents can be used as an indicator of the premium for Lahaina fee simple prices over the sales comparables in Kahului/Wailuku.

The premium for Lahaina retail space on a secondary road were 19% greater in Lahaina than in Kahului/Wailuku; office rents were 58% higher; and warehouse space was 77% higher, as also seen in Exhibit M. Although premiums for fee prices in Lahaina versus fee prices in Kahului/Wailuku are not expected to directly correlate with the premiums in rents, it would be fair to use this range as an indicator of premiums charged for location.

EXHIBIT K

Lease rents in Lahaina range from \$1.11-\$2.00 net, per square foot

LEASING STATISTICS OF SELECTED MULTI-TENANT INDUSTRIAL DEVELOPMENTS IN LAHAINA

Name	Major tenants	Land area (acres)	Net leasable area (sf)	Lease rents per sq. ft.	Common Area Maintenance
Lahaina Trade Center	Westside Billiards Hobie Sports Maui Gold	0.93	19,800	\$1.25 net	\$0.17
West Maui Trade Center	Robert Lynn Nelson First Hawaiian Bank Mini Storage Maui Realty	3.50	36,800	\$2.00 net (1) \$1.11 net (2)	\$0.30 \$0.20
Mind's Eye Square Bldg #1 Bldg #2	Mind's Eye Interiors Lahaina Cartage	0.93	22,500 11,317	\$1.46 net (1) \$1.24 net (2)	\$0.28 \$0.28
Lahaina Industrial Center	J. Ward Construction GTE Mobilnet J. Clift Construction	0.57	13,104	\$1.65 gross	
	Total	5.93	103,521	\$1.11 - \$2.00 net	\$0.17 - \$0.30

(1) Office space rents.

(2) Warehouse space rents.

Source: Discussions with developer representatives and brokers.

EXHIBIT L

Lease rents are highest for retail space, followed by office, and warehouse rents

ASKING LEASE RENTS FOR AVAILABLE OFFICE, RETAIL AND WAREHOUSE PROPERTIES IN LAHAINA

Size (sf)	Base rent per sq. ft.	Common area maintenance	Total rent	Comments
Retail:				
975-1,795	\$1.46	\$0.28	\$1.74	New building on secondary road; 3-5 year lease
800	\$2.00	\$0.30	\$2.30	Building on Honoapiilani Highway; 5 year lease
1,375	\$1.53	\$0.17	\$1.70	On secondary road; 3+ year lease
Office:				
800	\$2.00	\$0.30	\$2.30	Building on Honoapiilani Highway; 5 year lease
975-1,795	\$1.46	\$0.28	\$1.74	New building on secondary road; 3 year minimum lease
300-500	\$1.00	\$0.20	\$1.20	On secondary road; second floor
Warehouse:				
5,500	\$1.25	\$0.28	\$1.53	New warehouse on secondary road
3,000	\$1.11	\$0.20	\$1.31	Building on Honoapiilani Highway
1,000-1,100	\$1.00	\$0.20	\$1.20	12 foot ceiling; roll up door
216-240	\$1.35	\$0.30 (1)	\$1.65	On secondary road; gross rent quoted

Summary:

Type of Space	Rent on secondary road	Rent on primary road	Premium
Retail	\$1.45-\$1.53	\$2.00	36%
Office	\$1.50	\$2.00	33%
Warehouse	\$1.00-\$1.35	\$1.11	0%

(1) Gross rent is quoted for space; an estimated CAM charge of \$0.30 was deducted to estimate a base rent.
 Source: Compiled by KPMG Peat Marwick based in information from Monroe & Friedlander, Inc. - Maui, and Lawson and Associates.
 Conversations with developer representatives.

EXHIBIT M

Comparable fee simple prices for industrial properties in Kahului/Wailuku are \$25-\$40 per square foot; Lahaina commands a rental premium for its location

FEE SIMPLE SALES PRICE INDICATORS FOR INDUSTRIAL PROPERTIES

A. Comparable sales of vacant industrial land on Maui, 1990-1993

Location	TMK (1)	Sales price	Sale date	Land area (sq. ft.)	Price per square foot
Millyard -Wailuku	3-4-20:35	\$540,000	8/13/93	17,879	\$30.20
Millyard -Wailuku	3-4-20:22	\$280,000	12/9/92	11,358	\$24.65
Millyard -Wailuku	3-4-20:48	\$291,000	12/30/92	10,388	\$28.01
Millyard -Wailuku	3-4-20:59	\$315,000	11/20/91	12,261	\$25.69
Millyard -Wailuku	3-4-20:52	\$415,000	10/8/91	15,326	\$27.08
Maui Industrial Area	3-7-12:71	\$732,700	12/26/91	22,204	\$33.00
Maui Industrial Area	3-7-12:67	\$509,800	12/30/91	14,568	\$34.99
Maui Industrial Area	3-7-12:59	\$888,000	12/27/91	28,104	\$31.60
Maui Industrial Area	3-7-12:68	\$542,800	12/26/91	15,509	\$35.00
Maui Industrial Area	3-7-12:58	\$798,700	12/27/91	24,960	\$32.00
Maui Industrial Area	3-7-12:43	\$596,586	6/30/93	14,998	\$39.78
Maui Industrial Area	3-7-12:75	\$3,829,600 (2)	4/26/93	29,151	\$37.13
Maui Industrial Area	3-7-12:76	above	above	49,614	\$37.13
Maui Industrial Area	3-7-12:79	above	above	24,372	\$37.13
Maui Industrial Area	3-7-12:60	\$2,099,441 (2)	6/25/93	20,919	\$32.72
Maui Industrial Area	3-7-12:61	above	above	23,779	\$32.72
Maui Industrial Area	3-7-12:62	above	above	19,462	\$32.72

Average price per square foot for Kahului/Wailuku = \$33.00.

B. Premium of Lahaina industrial rents to Kahului/Wailuku rents

Type of space	Typical rents on secondary road		Lahaina Premium
	Lahaina	Kahului-Wailuku	
Retail	\$1.45-\$1.53	\$1.25	19%
Office	\$1.50	\$0.85-\$1.05	58%
Warehouse	\$1.00-\$1.30	\$0.50-\$0.80	77%

(1) MLS, Hawaii Inc.

(2) Transaction is a multiple parcel sale, involving following listed parcels.

(3) Estimate based on an 8% return on land values.

Source: KPMG Peat Marwick

PROJECTED INDUSTRIAL MARKET ASSESSMENT

Projected Future Industrial Space Demand in Lahaina

The need for industrial space results from growth in tourism, the development of hotel lands, and a corresponding rise in employment. Three hotel/condominium projects in the North Beach Kaanapali area are planned for development between 2000-2010, and work is now being done on the subdivision infrastructure. The developments are comprised of four lots with a total of 95 acres, and can accommodate 3,200 hotel or condominium units. Based on these developments and the development of Lei'ali'i, HFDC's master planned community, projected demand for industrial space should be substantiated by the direct and indirect growth in employment.

According to projections made by Wilson Okamoto & Associates in the "Land Use Forecast Technical Study", produced for the Maui Community Plan Update, industrial employment should grow at a rate that would require the following increase in industrial space. The demand for industrial space is projected to exceed supply over the next 15 years. These projections show that by 1996, 13 to 16 additional acres of industrial land will be needed; by 2000, a total 29 to 36 acres; by 2005, a total of 45 to 56 acres, and by 2010, 52 to 79 acres will be needed as seen in Exhibit N. Although industrial employment shows a slight decline from 1996 to 2000, changes in the mix of job types will in fact require more industrial space.

Projected Demand for WMVG Project

West Maui Venture Group's proposal to develop approximately 32 net acres of light industrial park to be delivered between 1996 and 2006, should come on line at a time when light industrial space demand is high, and supply of space is tight. Currently, plans exist for two other light industrial developments, in Napili and in Lahaina adjacent to the subject property, however both landowners have no immediate plans to develop their properties.

If no other competitive supply of industrial land were to become available, WMVG's project would be completely marketed by 2001. However, assuming some competition from another developer of industrial space, the projected demand is still sufficient to nearly completely absorb the Lahaina Business Park by 2003.

As illustrated in Exhibit O, WMVG is shown to deliver the 22-acre Phase I of the project in 1997, and the remaining 10-acre Phase II, in 2002. Hawaii Omori, or some other competitor, is assumed to supply another 27 total acres of industrial land in two phases; 13 acres in 1999, and 14 acres in 2004. As seen in the graph, at each introduction of new industrial space, supply exceeds demand for a period of one year at a minimum, to a period of six years at a maximum, when both developers have delivered their total supply. In any event, demand is projected to completely absorb WMVG's project, and its competitors' by 2008.

Projected Absorption for the WMVG Project

Visibility and access are components to the successful sale of the project and, at a minimum, it is assumed that WMVG's location provides equal benefit to the consumer as that of the competition. WMVG would maximize its visibility by building a Main Road from the Honoapiilani Highway through the heart of the project. If WMVG is successful in attaining the realignment of the Connector Road, the Main Road will be extended mauka to the Bypass Highway.

EXHIBIT N

**By 2010, growth in industrial employment will justify
an additional 52 to 79 acres of industrial land in Lahaina**

**CUMULATIVE INDUSTRIAL DEMAND AND AREA REQUIREMENTS FOR ISLAND OF MAUI,
1996 - 2010**

<u>Industrial employment</u>	<u>1996</u>	<u>2000</u>	<u>2005</u>	<u>2010</u>
Lahaina	1,805	1,802	2,025	2,109
Wailuku-Kahului	7,112	7,804	8,565	8,875
Kihei-Makena	1,096	1,308	1,161	1,201
Hana	63	73	86	90
Makawao-Kula	487	594	664	687
Paia-Haiku	439	477	535	547
Total	<u>11,002</u>	<u>12,058</u>	<u>13,036</u>	<u>13,509</u>

<u>Required acreage</u>	<u>1996</u>	<u>2000</u>	<u>2005</u>	<u>2010</u>
Lahaina	13-16	29-36	45-56	52-79
Wailuku-Kahului	52-65	115-144	173-216	203-254
Kihei-Makena	5-6	11-14	17-21	20-25
Hana	0	1	2-3	2-3
Makawao-Kula	3-4	6-8	10-13	12-15
Paia-Haiku	2-3	5-6	7-9	8-10
Total	<u>75-94</u>	<u>167-209</u>	<u>254-318</u>	<u>297-386</u>

Note: Acreage is quoted as a range; the lower figure represents the minimum land requirement, and the higher figure includes a growth factor of 25%.

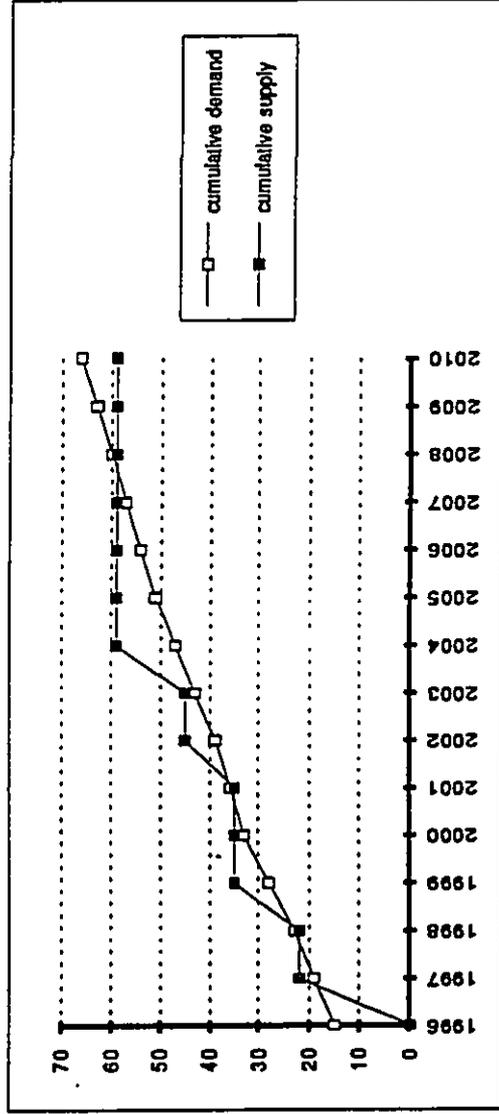
Source: Wilson Okamoto & Associates, Inc., "Maui Community Plan Update Land Use Forecast Technical Study", June 1992.

EXHIBIT Q

If competitive industrial supply is built to maximum estimates, the WMVG project should be absorbed by 2008

PROJECTED ADDITIONAL NET DEMAND FOR INDUSTRIAL SPACE (ACRES): 1996-2006

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Projected cumulative demand for industrial space (1):	15	19	23	28	33	36	39	43	47	51	54	57	60	63	66
Projected cumulative supply of industrial space:															
WMVG project	0	22	22	22	22	22	32	32	32	32	32	32	32	32	32
Hawaii Omo/others	0	0	0	13	13	13	13	13	27	27	27	27	27	27	27
Cumulative supply	0	22	22	35	35	35	45	45	59	59	59	59	59	59	59
Net demand/(excess)	15	(9)	1	(7)	(2)	1	(6)	(2)	(12)	(8)	(5)	(2)	1	4	7



(1) KPMG Peat Marwick estimates based on midpoint range of industrial demand figures as published by Wilson Okamoto & Associates, Inc., "Maui Community Plan Update Land Use Forecast Technical Study", June 1992.
Source: KPMG Peat Marwick

In spite of an assumed supply of competitive industrial space, WMVG is projected to market approximately 31 out of approximately 32 acres by 2003. If WMVG is first to deliver their 22 acres of industrial space by 1997, the project would capture all of the available demand. In 1997, this demand is projected at 19 acres and in 1998 the cumulative demand is for 23 acres. Therefore, Phase I is projected to be absorbed by 1998, as seen in Exhibit P.

The competition is assumed to supply 13 acres of vacant industrial land in 1999. Due to the competitive supply and the temporarily saturated market, it is anticipated that Phase II of the Lahaina Business Park would not be built until 2002. At this time, their fair share of the total available new supply accounts for a release of 6 acres.

Projected Rental Rates for WMVG Project

Determinants of rental rates are location, visibility, and type of space. For our purposes, rents have been estimated based on two locations, frontage on the Main Road (or the Bypass Connector Road) and on inside lots off the Main Road. Rents are then further categorized by use as retail, office or warehouse space. Based on 1993 prices, rents are estimated to range between \$1.10 and \$1.90 per square foot, depending on location and size of lot, as shown in Exhibit Q.

Retail and office space with maximum visibility on the Main Road, are estimated to range from \$1.60 to \$1.90 per square foot. Warehouse space in Phase I, is estimated to range between \$1.20 and \$1.40 per square foot. It is likely that the majority of the retail and office space would be available on the main road, and that there would be more warehouse space offered off the main road and in Phase II.

An interior roadway would create a loop through Phase II of the project and would also provide access and visibility to Phase II lots. Retail and office space in Phase II would be less expensive because of the secondary location, and is expected to range between \$1.20 and \$1.50 per square foot. Larger warehouse spaces would be located off the interior roadway and would be least expensive at \$1.10 to \$1.30 per square foot.

Targeted Renters for Phase I and Phase II

Phase I will accommodate tenants for both small and large scale businesses. Spaces on the Connector Road would be attractive to retailers and office space users. Phase I of the Lahaina Business Park should coincide with the completion of the first stages of the Villages of Lei'ali'i. As households multiply in the neighboring community, demand for shops, restaurant and office space will grow; and as small businesses grow and move into the neighborhood, industrial and warehouse space requiring roadway access and visibility would also be absorbed. This could include big "box" type retailers and distribution warehouses.

Phase II is expected to appeal to businesses in which visibility is not as important as cost efficiency. The less expensive, larger spaces would more likely be leased by businesses such as construction, manufacturing, distribution centers, lumberyards, baseyards and storage facilities.

EXHIBIT P

The proposed Lahaina Business Park is expected to be nearly completely absorbed by the year 2003

LAHAINA BUSINESS PARK FAIR SHARE OF TOTAL INDUSTRIAL MARKET

Year	Additional Lahaina Industrial space demand (acres)		Projected absorption	Projected supply (2)	Projected absorption	WMVG projected fair share		Acres developed	Fair share of available new supply	Potential annual absorption	Acres sold (3)	Cumulative
	Projected demand (1)	Projected supply (2)				Projected absorption	Acres developed					
1997	19	22	86%	22	86%	22	100%	22	100%	14	(4)	14
1998	23	22	100%	22	100%	22	100%	22	100%	8	(4)	22
1999	28	35	80%	35	80%	22	63%	22	63%	0		22
2000	33	35	94%	35	94%	22	63%	22	63%	0		22
2001	36	35	100%	35	100%	22	63%	22	63%	0		22
2002	39	45	87%	45	87%	32	71%	32	71%	6		28
2003	43	45	96%	45	96%	32	71%	32	71%	3		31
2004	47	59	80%	59	80%	32	54%	32	54%	0		31
2005	51	59	86%	59	86%	32	54%	32	54%	0		31
2006	54	59	92%	59	92%	32	54%	32	54%	0		31
2007	57	59	97%	59	97%	32	54%	32	54%	0		31
2008	60	59	100%	59	100%	32	54%	32	54%	1		32
2009	63	59	100%	59	100%	32	54%	32	54%	0		32
2010	66	59	100%	59	100%	32	54%	32	54%	0		32

(1) Wilson Okamoto & Associates, Inc., "Maui Community Plan Update Land Use Forecast Technical Study", June 1992.

(2) As shown in Exhibit O.

(3) Fair share times cumulative demand less previously sold acreage.

(4) Total absorption was allocated between 1997 and 1998.

Source: KPMG Peat Marwick.

EXHIBIT Q

Rental rates are estimated to range between \$1.10-\$1.90 per square foot depending on access, visibility and type of space

ESTIMATED BASE RENTAL RATES (1993 PRICES)

	Monthly base rental rates per square foot		
	Retail	Office	Warehouse
Phase I lots: Frontage on Bypass Connector Road	\$1.60-\$1.90	\$1.60-\$1.90	\$1.20-\$1.40
Phase II lots: Inside lots; larger spaces	\$1.20-\$1.50	\$1.20-\$1.50	\$1.10-\$1.30

Source: KPMG Peat Marwick

MARKET SUPPORT SUMMARY

Over the next fifteen years, there will be a strong demand for vacant industrial land in the Lahaina area. The demand for land will be the result of a growth in population and industry generated by increased tourism and the economic activity surrounding the development of major residential subdivisions and additional resort developments.

West Maui Venture Group is anticipated to enter the market at a time when the supply of industrial space is limited and the demand for space is great. The demand for industrial space is projected to absorb the first 22 acre phase of the total 32 acres (approximately) at the Lahaina Business Park within two years of delivery; and complete absorption of the balance of the project should occur by the year 2008.

In addition, even with an allowance for competitive industrial space being built in the Lahaina market, demand is anticipated to be strong enough to absorb total supply by the year 2008, with demand will once again exceeding the supply of industrial space.

EXHIBITS

The WMVG project is expected to create jobs for nearly 600 employees by the year 2008

PROJECTED EMPLOYMENT AT THE LAHAINA BUSINESS PARK

	<u>Phase I 1997-1998</u>	<u>Phase II 2002-2008</u>	<u>Total</u>
Net acres developed	22	10	
Average industrial employees per acre (1)	<u>18.5</u>	<u>18.5</u>	
Projected employment	<u>407</u>	<u>185</u>	<u>592</u>

(1) Employees per industrial acre in Lahaina was estimated by Wilson Okamoto and Associates as follows:

	<u>1998</u>	<u>2000</u>	<u>2005</u>	<u>2010</u>	Average (all years)
Industrial employment	1,805	1,802	2,025	2,109	
Required acreage	13-16	29-36	45-56	52-79	
Employees/acre	22	18	17	16	18.5

Source: KPMG Peat Marwick



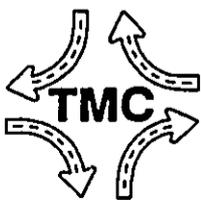
Appendix B

Traffic Impact Analysis

**TRAFFIC IMPACT ANALYSIS REPORT
FOR THE PROPOSED**

LAHAINA BUSINESS PARK

PREPARED FOR
WEST MAUI VENTURE GROUP
July 19, 1994



PREPARED BY
THE TRAFFIC MANAGEMENT CONSULTANT
RANDALL S. OKANEKU, P. E., PRINCIPAL • 1188 BISHOP STREET, SUITE 1907 • HONOLULU, HAWAII 96813

TABLE OF CONTENTS

	<u>Page</u>
I. Introduction	1
A. Purpose of Study	1
B. Scope of the Study	1
II. Project Description	2
A. General	2
B. Access	2
C. Land Use Intensity	4
D. Existing and Anticipated Future Development	4
1. Existing Land Uses	4
2. Hawaii Omori Project	6
3. HFDC Project	6
4. AMFAC/JMB Project	6
5. Lahaina Bypass Highway	7
III. Existing Conditions	7
A. Area Roadway System	7
B. Existing Traffic Volumes and Operating Conditions	7
1. General	7
a. Field Investigation	7
b. Capacity Analysis Methodology	7
2. Existing Peak Hour Traffic Analysis	8
IV. Projected Traffic	8
A. Site Traffic	8
1. Trip Generation Methodology	8
2. Trip Generation Characteristics	10

TABLE OF CONTENTS (CONT'D)

	<u>Page</u>
B. External Traffic	10
1. General	10
2. Through Traffic	11
3. Future Off-Site Traffic In Study Area	11
C. Peak Hour Traffic Analysis Without Project	12
1. Year 2000 Peak Hour Traffic Analysis Without Project	12
2. Year 2008 Peak Hour Traffic Analysis Without Project	12
D. Peak Hour Traffic Analysis With the Proposed Project	14
V. Traffic Impact Analysis	14
A. Phase I Peak Hour Traffic With Project	14
B. Phase II Peak Hour With Project	17
VI. Recommendations and Conclusions	17
A. Recommended Highway Improvements	17
B. Conclusions	19

LIST OF EXHIBITS

	<u>Page</u>
FIGURE 1 - VICINITY MAP	3
FIGURE 2 - SUBDIVISION PLAN	5
FIGURE 3 - EXISTING PEAK HOUR TRAFFIC	9
FIGURE 4 - YEAR 2000 PEAK HOUR TRAFFIC WITHOUT PROJECT	13
FIGURE 5 - YEAR 2008 PEAK HOUR TRAFFIC WITHOUT PROJECT	15
FIGURE 6 - YEAR 2000 PEAK HOUR TRAFFIC WITH PHASE I	16
FIGURE 7 - YEAR 2008 PEAK HOUR TRAFFIC WITH PHASE II	18

**FINAL TRAFFIC IMPACT ANALYSIS REPORT
FOR THE PROPOSED
LAHAINA BUSINESS PARK**

I. Introduction

A. Purpose of Study

The purpose of this study is to analyze the traffic impacts resulting from the development of the proposed Lahaina Business Park in Lahaina, Maui, Hawaii. This study also recommends alternative improvements that would mitigate the traffic impacts identified in this study. This report presents the findings and recommendations of the study.

B. Scope of the Study

1. Description of the proposed project.
2. Description of existing and planned land uses in the project vicinity.
3. Evaluation of existing roadway and traffic conditions.
4. Estimation of future traffic demands without the project.
5. Development of trip generation characteristics for the proposed project.
6. The identification and analysis of traffic impacts resulting from the proposed project.
7. Description of proposed roadway improvements planned within the study area.
8. Recommendation of improvements that would mitigate the traffic impacts identified in this study.

II. Project Description

A. General

Lahaina Business Park is proposed on a 37.7 acre property, identified as Tax Map Key 4-5-10:5. The project site is bounded by the proposed Hawaii Omori Mauka Light Industrial Park to the west, the proposed State Housing Finance Development Corporation (HFDC) Villages of Lei'ali'i, to the north and east, and Kahoma Stream to the south. The Lahaina Business Park subdivision would consist of quarter acre to five-acre lots, totaling 32 net acres. The Lahaina Business Park is proposed to be developed in two phases.

Phase I would cover about 22 net acres. These lots would be located along the main access road. Phase I is expected to be developed into automotive, office, and retail activities. Phase I of the Lahaina Business Park is expected to be ready for initial occupancy by the Year 1996. For the purpose of this analysis, Phase I is assumed to be fully-built out and occupied by 2000. The horizon year for Phase I is the Year 2000.

Phase II makes up the remaining 10 net acres and is generally located along Kahoma Stream. The planned land use activities include storage facilities, distributions centers, and baseyards. Figure 1 shows project location and vicinity map. For the purpose of this study, Phase II of the Lahaina Business Park is assumed to be fully-built out and occupied by the Year 2008. The horizon year for Phase II is the Year 2008.

B. Access

Phase I access is proposed on the extension of a proposed road, providing access to the Hawaii Omori Project hereinafter referred to as the "Project Access Road". The Project Access Road would intersect Honoapiilani Highway opposite the existing Lahaina Cannery Mall driveway. Furthermore, the Draft Lahaina Community Plan Update, dated September 20, 1993, shows the Project Access Road extending through HFDC property and connecting to the proposed Lahaina Bypass Highway, being planned by the State Department of Transportation (DOT). This roadway alignment is proposed as an alternative to Kapunakea Street, by the Draft Lahaina Community Plan.

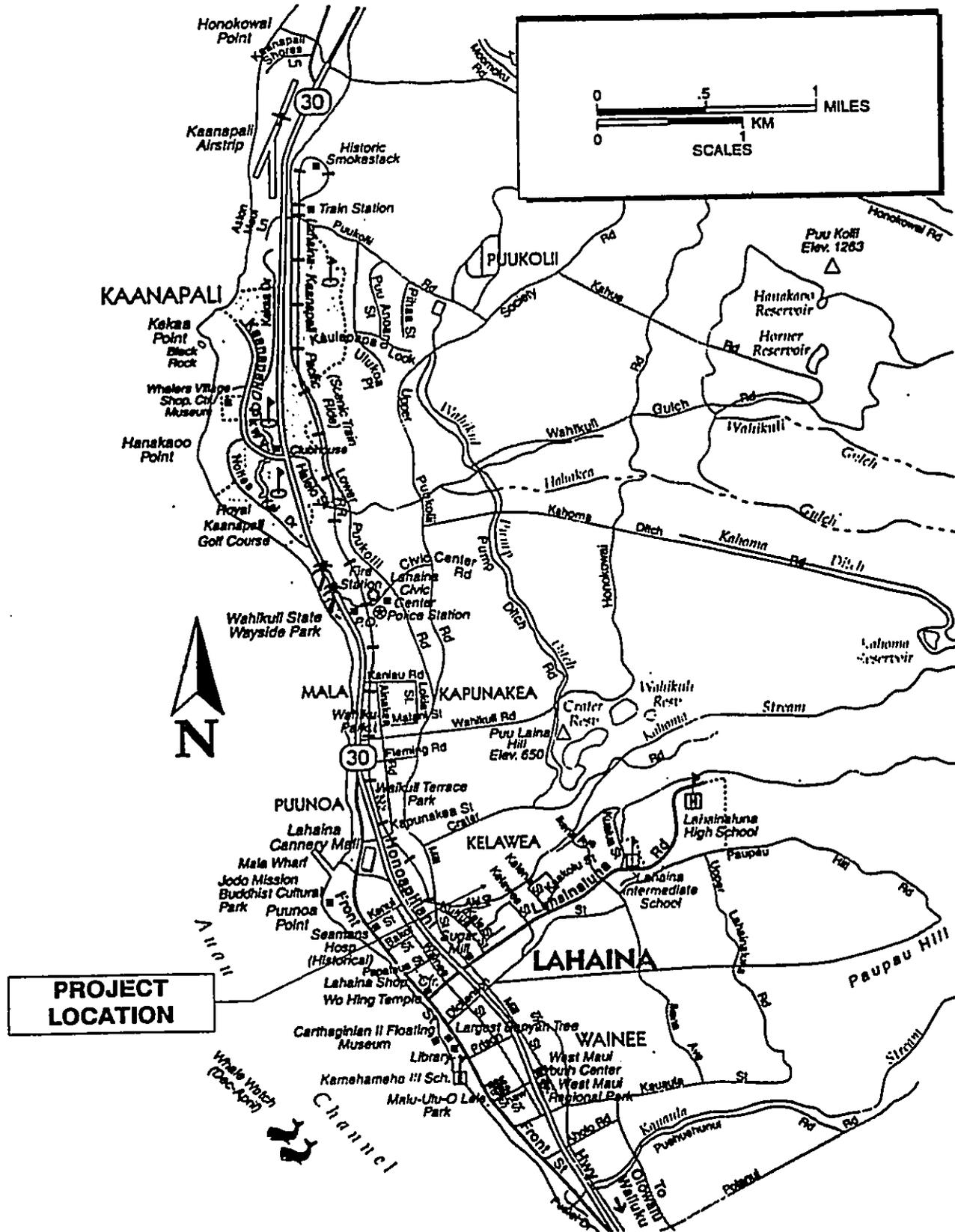


FIGURE 1 - VICINITY MAP

The State DOT designated mauka-makai connector road between the Lahaina Bypass Highway and Honoapiilani Highway, in the project vicinity, is Kapunakea Street. However, the existing Kapunakea Street right-of-way is restricted and located within a residential area. Furthermore, sight distance restrictions at the Lahaina Railroad crossing and its proximity to the Honoapiilani Highway intersection combine to limit the feasibility of upgrading the existing Kapunakea Street to a major connector road between the Lahaina Bypass Highway and Honoapiilani Highway.

However, for the purpose of this analysis, the Project Access Road is assumed to provide access only to the proposed project and the Hawaii Omori Project. Kapunakea Street is assumed to be developed as the major collector road between Honoapiilani Highway and the proposed Lahaina Bypass Highway.

C. Land Use Intensity

Figure 2 shows the proposed subdivision plan. For the purpose of this traffic impact analysis, it is assumed that the Phase I lots would be developed to a floor-area-ratio (FAR) of 15,000 square feet (SF) of gross floor area (GFA) per net acre, which is consistent with the methodology used in this analysis to estimate the trip generation for a business park. It is further assumed that Phase II lots would be developed to a floor-area-ratio (FAR) of 11,000 SF of GFA per net acre which is consistent with the methodology used to estimate the trip generation for general light industrial uses.

D. Existing and Anticipated Future Development

1. Existing Land Uses

The project site and the surrounding lands are currently in sugar cultivation. Existing development on the makai (east) side of Honoapiilani Highway is the Lahaina Cannery Mall. Existing residential communities are located to the north and south of the project vicinity.

2. Hawaii Omori Project

The Hawaii Omori Mauka Light Industrial is 27 acre light industrial park located makai of the project site. At this writing, Hawaii Omori Corporation has no plans to proceed with its development in the near future, however for the purpose of this traffic impact analysis, it is assumed that 13 acres of the Hawaii Omori project would be built-out and occupied by Phase I of the proposed project and the remaining 14 acres would be built-out and occupied by Phase II of the proposed project, based upon "Market Assessment for Industrial Space in Lahaina, Maui", prepared by KPMG Peat Marwick, January 1994.

3. HFDC Project

The State Housing Finance and Development Corporation (HFDC) is planning to develop 1,120 acres of land over about a twenty year time frame. The infrastructure for the first phase of the Villages of Lei'ali'i has been completed. The "Traffic Impact Report for the Lahaina Master Planned Project", prepared by Parsons, Brinckerhoff, Quade & Douglas (PBQD), analyzes the traffic impacts resulting from the State housing project. A total of 4,800 dwelling units are planned. The PBQD study concludes that Honoapiilani Highway would reach the limits of its capacity after the development of about 2,000 dwelling units in the initial phases of the State housing project. For the purpose of this traffic impact analysis, it is assumed that the development of the first 2,000 dwelling units of the State housing project would coincide with Phase I of this project. According to the PBQD report, the development of the remaining 2,800 dwelling units would be contingent on the construction of the proposed Lahaina Bypass Highway.

4. AMFAC/JMB Project

AMFAC/JMB Hawaii, Inc. proposes to develop a planned residential community on 260 acres of land in Kaanapali over about a ten year time frame. The proposed AMFAC/JMB project would be developed on both sides of the proposed Lahaina Bypass Highway alignment. The "Traffic Impact Report for the Proposed Puukoolii Village", prepared by Austin, Tsutsumi & Associates, Inc. (ATA), analyzes the traffic impacts resulting from the AMFAC/JMB project. The ATA study anticipates the construction

of the Lahaina Bypass Highway by the third year of development. For the purpose of this traffic impact analysis, it is assumed that the development of the initial three-year development phase, as analyzed in the ATA study, would coincide with Phase I of this project. The remainder of the project would be contingent on the construction of the proposed Lahaina Bypass Highway.

5. Lahaina Bypass Highway

The proposed Lahaina Bypass Highway is initially planned by State Department of Transportation (DOT) as a high quality, two-lane arterial highway, which would ultimately be expanded to a four-lane, divided highway. The proposed Highway would bypass Honoapiilani Highway through Lahaina and Kaanapali from Puamana to Honokowai. State DOT is planning for construction of two-lane Lahaina Bypass Highway by the Year 2001.

III. Existing Conditions

A. Area Roadway System

Honoapiilani Highway is the primary arterial highway for West Maui. In the vicinity of the project, Honoapiilani Highway is a four-lane highway with traffic signals at major intersections. Honoapiilani Highway is signalized at the Lahaina Cannery Mall driveway, located between Kapunakea Street and Kenuei Street.

B. Existing Traffic Volumes and Operating Conditions

1. General

a. Field Investigation

A manual traffic count survey was conducted in the project vicinity in April, 1994, between the hours of 6:00 AM to 9:00 AM, and 3:00 PM to 6:00 PM. Additional traffic count data were obtained from the State DOT and other studies conducted in the vicinity.

b. Capacity Analysis Methodology

The highway capacity analysis, performed in this study, is based upon procedures presented in the "Highway Capacity Manual" (HCM), Special Report 209, Transportation Research Board, 1985 as amended, and the "Highway Capacity Software", Federal Highways Administration.

Level of Service (LOS) is defined as "a qualitative measure describing operational conditions within a traffic stream". Several factors are included in determining LOS such as: speed, delay, vehicle density, freedom to maneuver, traffic interruptions, driver comfort, and safety. LOS "A", "B", and "C" are considered satisfactory levels of service. LOS "D" is generally considered a "desirable minimum" operating level of service. LOS "E" is an undesirable condition and LOS "F" is an unacceptable condition.

2. Existing Peak Hour Traffic Analysis

The AM peak hour of traffic in the vicinity of the project occurs between 7:00 AM and 8:00 AM. The PM peak hour of traffic occurs between 3:30 PM and 4:30 PM. The intersection of Honoapiilani Highway and the Cannery Mall driveway operates at an overall LOS "B" during both the AM and PM peak hours of traffic. The traffic movements at this intersection operate at satisfactory LOS during the peak hours of traffic. Figure 3 shows the existing peak hour traffic and results of the capacity analysis.

IV. Projected Traffic

A. Site Traffic

1. Trip Generation Methodology

The trip generation methodology used in this study is based upon generally accepted techniques developed by the Institute of Transportation Engineers (ITE) and published in "Trip Generation", 5th Edition, 1991. The ITE trip rates for business park and light industrial uses are developed by correlating the vehicle trip generation data with various land use characteristics, such as vehicle trips per 1,000 square feet of gross floor area. The trip generation characteristics for Lahaina Business Park are based upon the land use intensity assumptions, described in Section II.

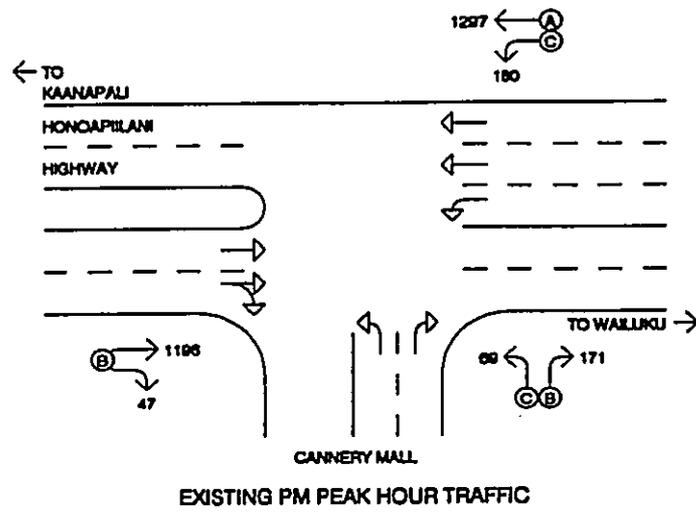
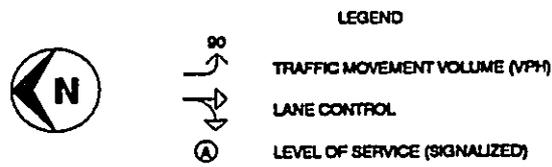
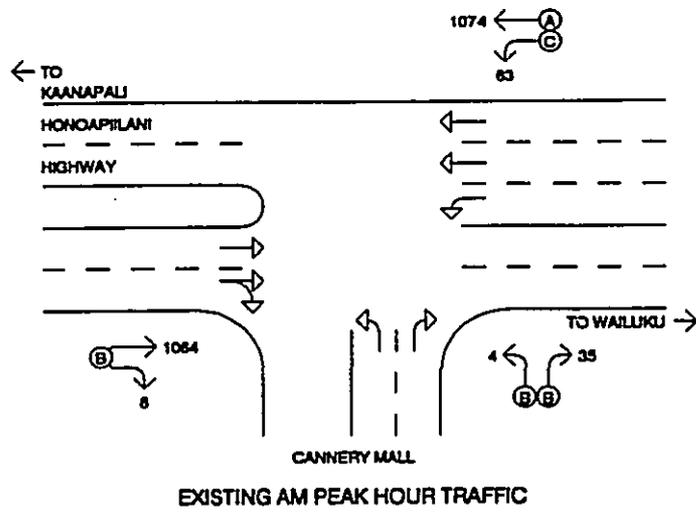


FIGURE 3 - EXISTING PEAK HOUR TRAFFIC

2. Trip Generation Characteristics

Phase I of the Lahaina Business Park is analyzed as a business park with a total of 330,000 SF of GFA. Phase I is expected to generate a total of 501 vehicles per hour (vph) during the AM peak hour of traffic, 426 vph entering the site and 75 vph exiting the site. During the PM peak hour of traffic, Phase I is expected to generate a total of 477 vph, 105 vph entering the site and 372 vph exiting the site.

Phase II of the Lahaina Business Park is analyzed as a general light industrial development with 110,000 SF of GFA. Phase II is expected to generate a total of 101 vph during the AM peak hour of traffic, 84 vph entering the site and 17 vph exiting the site. During the PM peak hour of traffic, Phase II is expected to generate a total of 108 vph, 13 vph entering the site and 95 vph exiting the site. Table 1 shows a summary of the trip generation characteristics.

Phase	AM Peak Hour Traffic (vph)			PM Peak Hour Traffic (vph)		
	Enter	Exit	Total	Enter	Exit	Total
I	426	75	501	105	372	477
II	84	17	101	13	95	108
Totals	510	92	602	118	467	585

B. External Traffic

1. General

The purpose of analyzing future traffic conditions without project is to establish the base line conditions from which to analyze the traffic impacts directly attributable to the proposed project. The Years 2000 and 2008 are selected as the planning horizons corresponding to the development of Phases I and II, respectively.

2. Through Traffic

The Maui Long-Range Highway Planning Study (MLRHPS) was completed in 1991 by State DOT and the County of Maui. The purpose of this study was to determine the long range highway needs for the island Maui to the Year 2010. Using 1994 as the base year, the MLRHPS corridor traffic demands to increase at an annual rate of between 3.5% and 3.7% to the Year 2010, which included the development of the State-proposed HFDC housing project in Lahaina. The State DOT is in the process of updating its transportation plan for the island of Maui. The updated plan is expected to be completed by the end of 1994. This long-range plan update would address the transportation needs for Maui through the Year 2020.

Historical traffic count data were obtained from the State DOT. Linear regression techniques were applied to the historical data to estimate the annual growth in traffic. Traffic in the project vicinity has increased at an annual rate of approximately 3.3%. The historical growth in traffic is extrapolated from the Base Year 1994 to estimate projected Years 2000 and 2008 peak hour traffic conditions.

Three projects are analyzed for off-site traffic. These include the Hawaii Omori Mauka Light Industrial Park, HFDC-proposed Villages of Lei'ali'i, and the JMB/AMFAC-proposed Puukolii Village. The traffic generated from the developments are added to the historical traffic projections to establish base line traffic conditions, from which to measure the proposed project's traffic impacts.

3. Future Off-Site Traffic In Study Area

The two major projects proposed in the vicinity are the Villages of Lei'ali'i and the Puukolii Village. Both projects are dependent on the proposed Lahaina Bypass Highway for project access as well as corridor highway capacity. The trip generation analysis and traffic assignment are adopted from their respective traffic studies. However, for the purpose of this analysis, the phasing of the each development is adjusted, based upon the expected construction of the Lahaina Bypass Highway. The initial

phases of both projects, analyzed without the proposed Lahaina Bypass Highway in their respective studies, are assumed to be built-out and occupied by the Year 2000.

The proposed Lahaina Business Park would share access with the Hawaii Omori Mauka Light Industrial Park. For the purpose of this analysis, about 48% of the Hawaii Omori project (13 acres) is expected to be built-out and occupied by the Year 2000.

By the Phase II planning horizon Year 2008, the Villages of Lei'ali'i, Puukolii Village, and the Hawaii Omori project are assumed to fully built-out and occupied.

C. Peak Hour Traffic Analysis Without Project

1. Year 2000 Peak Hour Traffic Analysis Without Project

During the Year 2000 AM peak hour of traffic without project, the intersection of Honoapiilani Highway and the Project Access Road would operate at an overall LOS "C". The traffic movements are expected to operate at satisfactory LOS during the Year 2000 AM peak hour without project.

The intersection of Honoapiilani Highway and the Project Access Road would operate at an overall LOS "C" during the Year 2000 PM peak hour of traffic without project. The traffic movements are expected to operate at satisfactory LOS during the Year 2000 PM peak hour without project. Figure 4 shows the Year 2000 AM and PM peak hour traffic without project.

2. Year 2008 Peak Hour Traffic Analysis Without Project

The Year 2008 peak hour traffic analysis without project is performed, assuming the Lahaina Bypass Highway is constructed, as proposed by State DOT. It is further assumed that Kapunakea Street is extended to the Lahaina Bypass Highway.

During the Year 2008 AM peak hour of traffic without project, the intersection of Honoapiilani Highway and the Project Access Road is expected to operate at satisfactory LOS. The Lahaina Bypass Highway would improve conditions on Honoapiilani Highway by diverting about 35% of the total through traffic in the corridor during the AM peak hour.

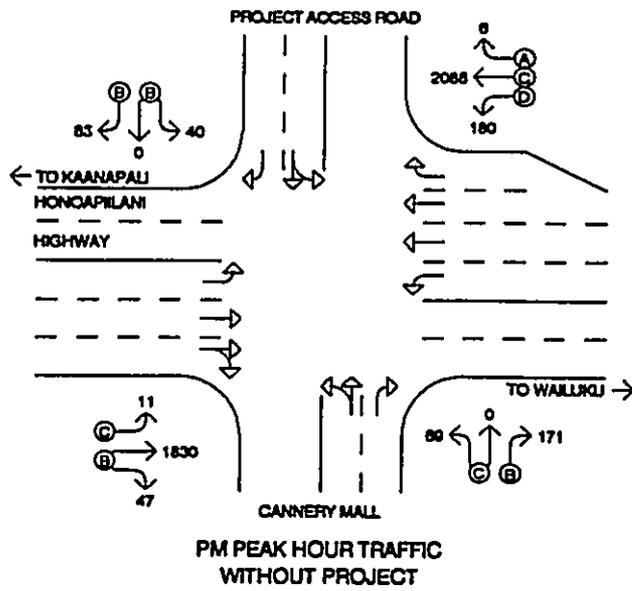
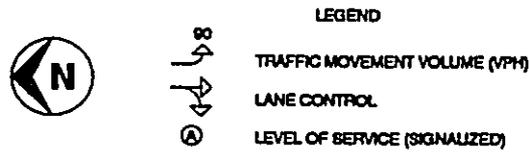
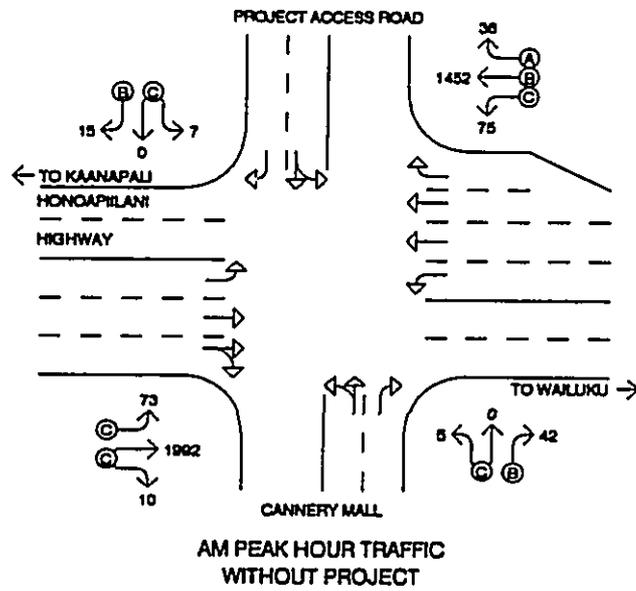


FIGURE 4 - YEAR 2000 PEAK HOUR TRAFFIC WITHOUT PROJECT

The intersection of Honoapiilani Highway and the Project Access Road would operate at satisfactory LOS during the Year 2008 PM peak hour of traffic without project. Figure 5 shows the Year 2008 peak hour traffic without project and results of the capacity analysis.

D. Peak Hour Traffic Analysis With the Proposed Project

The traffic impacts are analyzed for Phases I and II of the Lahaina Business Park. Phase I traffic is superimposed over the Year 2000 peak hour conditions without project. Phase I traffic impact analysis is performed, assuming the westbound approach of the Project Access Road at Honoapiilani Highway is widened to provide an exclusive left turn lane, an optional left turn/through/right turn lane, and an exclusive right turn lane.

Phase II analysis includes traffic, generated by both Phases I and II, superimposed over the Year 2008 peak hour conditions without project. Phase II traffic impact analysis is performed assuming that the Lahaina Bypass Highway is constructed and Kapunakea Street is extended to the Bypass Highway. The traffic impact analysis is discussed in the next section.

V. Traffic Impact Analysis

A. Phase I Peak Hour Traffic With Project

Figure 6 shows the AM and PM peak hour traffic with the development Phase I. During AM peak hour with Phase I, the intersection of Honoapiilani Highway and the Project Access Road is expected to operate at an overall LOS "C". The northbound left turn movement on Honoapiilani Highway are expected to operate at LOS "D". The westbound left turn movement is expected to operate at LOS "D". The remaining traffic movements at the intersection of Honoapiilani Highway and the Project Access Road are expected to operate at satisfactory, during the AM peak hour with Phase I.

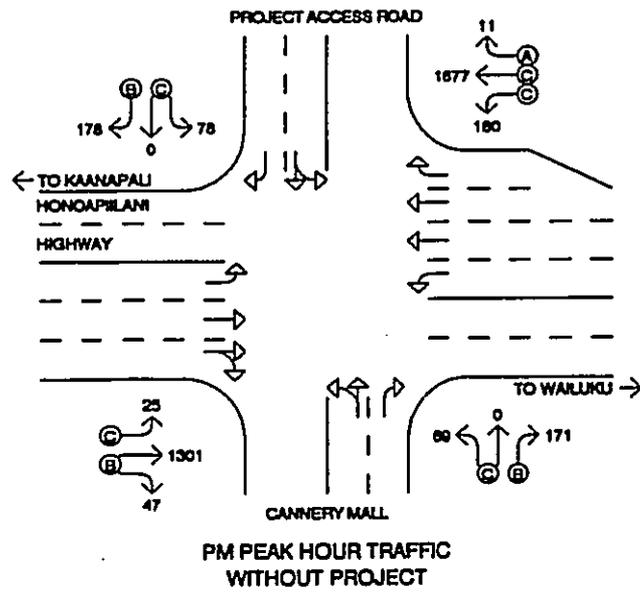
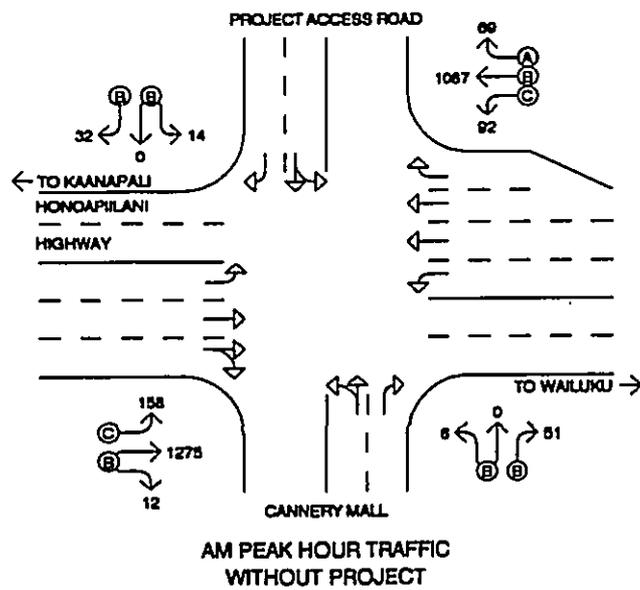


FIGURE 5 - YEAR 2008 PEAK HOUR TRAFFIC WITHOUT PROJECT

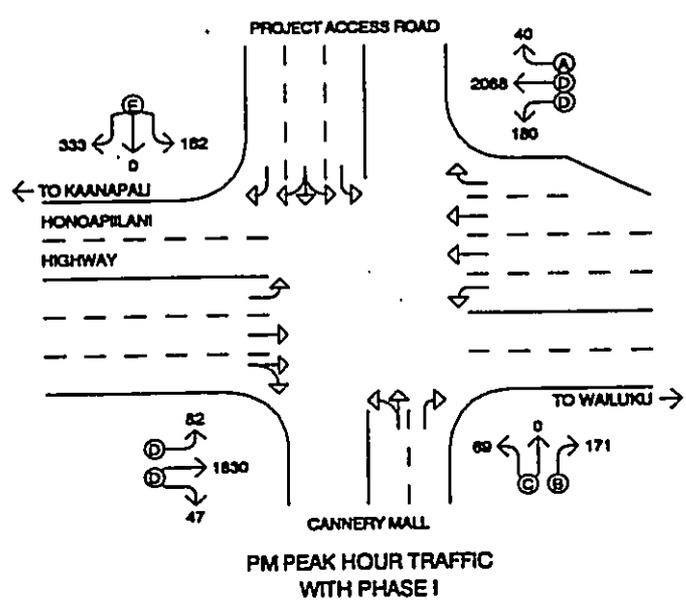
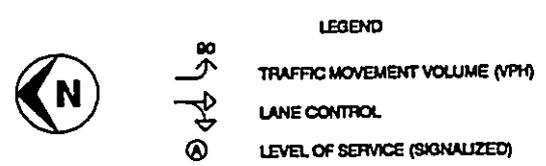
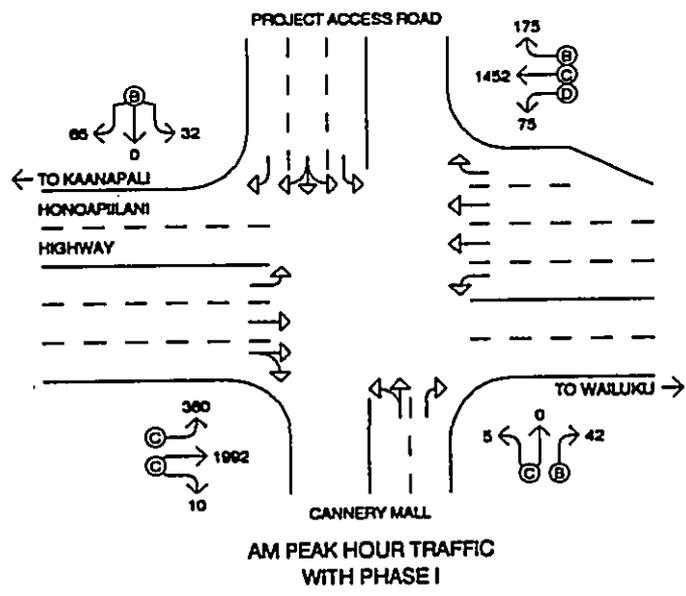


FIGURE 6 - YEAR 2000 PEAK HOUR TRAFFIC WITH PHASE I

The intersection of Honoapiilani Highway and the Project Access Road is expected to operate at an overall LOS "D" during the PM peak hour traffic with Phase I. The northbound through movement and the southbound left turn movement on Honoapiilani Highway are expected to continue to operate at LOS "D". The makai bound (westbound) approach, exiting the project site, is expected to operate at LOS "E", during the PM peak hour with Phase I traffic.

B. Phase II Peak Hour With Project

During the AM peak hour with Phase II, the intersection of Honoapiilani Highway and the Project Access Road is expected to operate at overall LOS "C". The left turn movement in southbound Honoapiilani Highway to the Project Access Road is expected to operate at LOS "D".

The intersection of Honoapiilani Highway and the Project Access Road is expected to operate at overall LOS "C", during the PM peak hour with Phase II. The left turn movements on both northbound and southbound Honoapiilani Highway are expected to operate at LOS "D". The makai bound approach of the Project Access Road is expected to operate at LOS "D". Figure 7 shows the AM and PM peak hour traffic with Phase II.

VI. Recommendations and Conclusions

A. Recommended Highway Improvements

The following highway improvements are recommended to accommodate projected traffic.

1. The Lahaina Bypass Highway should be constructed between Puamana and Honokowai by the Year 2001, as planned by State DOT.
2. Northbound Honoapiilani Highway should be widened to provide an exclusive right turn lane at the Project Access Road by the Year 2000.
3. Southbound Honoapiilani Highway should be widened to provide an exclusive left turn lane at the Project Access Road.
4. The Project Access Road at Honoapiilani Highway should be improved to provide separate left turn and right turn lanes and an optional left turn/through/right turn lane by the Year 2000.

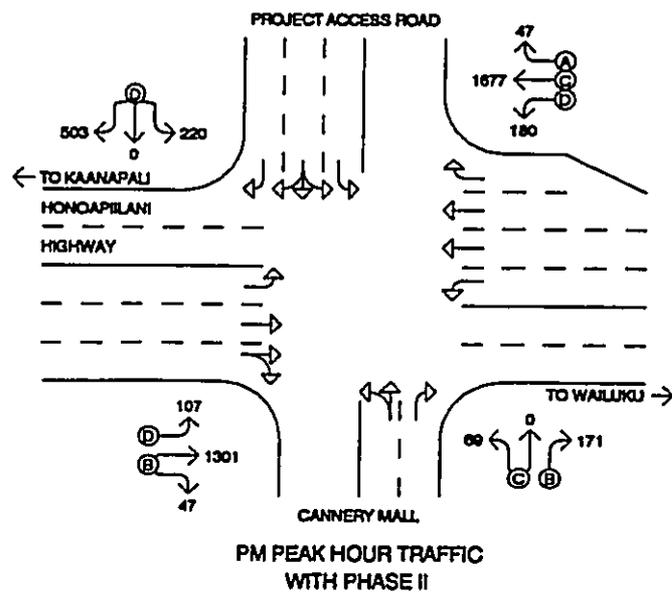
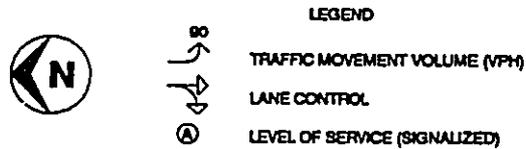
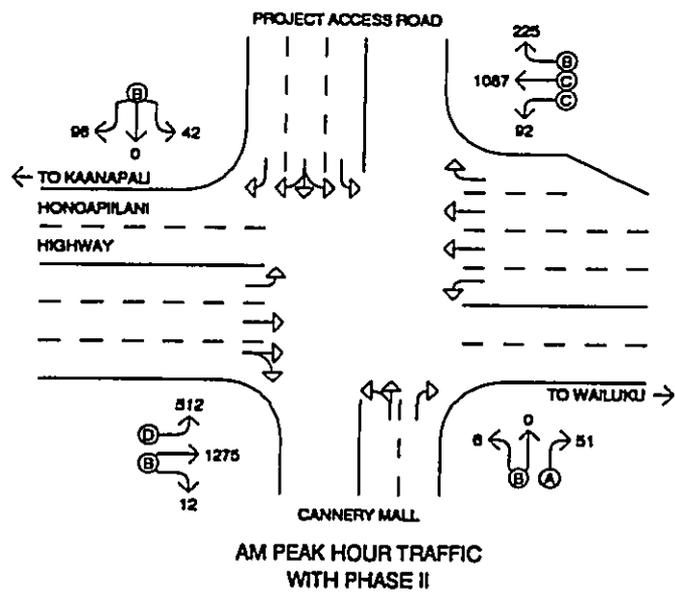


FIGURE 7 - YEAR 2008 PEAK HOUR TRAFFIC WITH PHASE II

B. Conclusions

The proposed Project Access Road can be extended to provide a more desirable alternative to Kapunakea Street as the collector-distributor roadway between Honoapiilani Highway and the Lahaina Bypass Highway, as recommended in the Draft Lahaina Community Plan Update. This alternative road would provide improved access for the proposed Lahaina Business Park and Hawaii Omori Mauka Light Industrial Park, by providing a direct connection to the proposed Lahaina Bypass Highway.

The Maui Long-Range Highway Planning Study (MLRHPS), completed in 1991, indicated that the two-lane Lahaina Bypass Highway was a "committed" project, i.e., "those that are approved by their respective government agencies for implementation." The widening of the Lahaina Bypass Highway to a four-lane, divided highway was part of the Year 2010 plan.

The timely implementation of highway improvements, discussed in this report, are expected to mitigate the traffic impacts resulting from the proposed Lahaina Business Park.



Appendix C

Environmental Site Assessment Phase I Report





BREWER
ENVIRONMENTAL
INDUSTRIES, INC.
a C BREWER company

*Final - Privileged and
Confidential*

Environmental Services Division

Mr. Hoolae Paoa
PhOWER Investments, Ltd.
1188 Bishop Street, Suite 902
Honolulu, HI 96813

November 29, 1993
BESD Job # 3632

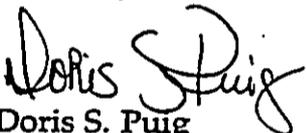
Subject: Preliminary Environmental Site Assessment - Phase I Report
Pioneer Mill Company, Limited Property
Tax Map Key (2) 4 - 5 - 10: 5
Kahoma Road
Lahaina, Maui, Hawaii

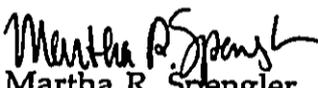
Dear Mr. Paoa:

Brewer Environmental Services has completed an environmental site assessment report for the above-referenced site. A detailed account of the investigation is presented in the following document.

If there are any questions, please contact our office at 832-7902.

Sincerely,


Doris S. Puig
Environmental Scientist


Martha R. Spengler
Project Manager

DSP Disk E2-3632

Brewer Environmental Services

BREWER ENVIRONMENTAL INDUSTRIES, INC.
P.O. BOX 48
HONOLULU, HI 96810
PHONE (808) 832-7902
FAX (808) 832-7901

*Final - Privileged and
Confidential*

**PRELIMINARY ENVIRONMENTAL
SITE ASSESSMENT**

**Pioneer Mill Company Limited Property
Lahaina, Maui, Hawaii**

BESD Job No. 3632

**Prepared for:
PhOWER Investments Limited**

November 29, 1993

**Prepared by:
Brewer Environmental Services Division
of
Brewer Environmental Industries, Inc.**

*Final - Privileged and
Confidential*

A Report Prepared For:

PhOWER Investments, Ltd.
1188 Bishop Street, Suite 902
Honolulu, HI 96813

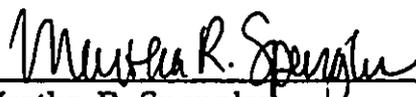
PRELIMINARY ENVIRONMENTAL SITE ASSESSMENT - PHASE I REPORT
PIONEER COMPANY LIMITED PROPERTY
TAX MAP KEY: (2) 4 - 5 - 10: 5
LAHAINA, MAUI, HAWAII

BESD Job No. 3632

by:



Doris S. Puig
Environmental Scientist



Martha R. Spengler
Project Manager

Brewer Environmental Services Division
1930 Auiki Street
Honolulu, HI 96819

Novemver 29, 1993

TABLE OF CONTENTS

	<u>Page</u>
Title Page	i
Signature Page	ii
1.0 Executive Summary	1
2.0 Purpose and Scope	2
3.0 Site Description	5
3.1 Site Location	5
3.2 Geology and Hydrogeology	5
3.3 Current Site Layout	7
3.4 Past Land Use	7
4.0 Present Site Conditions	11
4.1 Site Reconnaissance	11
4.1.1 Pioneer Mill Company, Limited Property	11
4.1.2 Adjacent Properties	13
4.2 Personnel Interviews	14
4.2.1 Mr. Jim Bailey, Operations Manager, Pioneer Mill Company, Ltd.	14
4.2.2 Mr. Don Gerbig, Director of Environmental Affairs and Safety, AMFAC	14
4.2.3 Mr. John Jac Kean, Client	16
4.2.4 Mr. Steve Kramar, Sales Manager and Controller, The Sugar Cane Train	16
4.3 Agency Lists Review	16
4.4 Hazardous Materials	18
4.5 Aboveground and Underground Storage Tanks	19
4.6 Asbestos Survey	19
4.7 PCB-Containing Materials	19
5.0 Conclusions and Recommendations	20
6.0 Limitations	20
7.0 References	22

PhOWER INVESTMENTS LIMITED
Environmental Site Assessment
November 29, 1993

*Final - Privileged and
Confidential*

FIGURES

- Figure 1 - Location Map
- Figure 2 - Site Plan Map
- Figure 3 - Site Layout
- Photo - Central Soil Pile 55 gallon Drum

1.0 EXECUTIVE SUMMARY

This report presents the results of Brewer Environmental Services Division's (BESD's) Phase I Preliminary Environmental Site Assessment (ESA) of the Pioneer Mill Company Limited property at Kahoma/Cane Haul Road, Lahaina, Maui, Hawaii in accordance with our proposal dated July 1, 1993. A notice to proceed was received on July 6, 1993.

Our assessment was conducted to evaluate the existing conditions at the approximately 34.9 acre site and to investigate the site's history and identify areas of potential environmental concern. Our research of the site's history indicates that the subject site and surrounding area was used for sugar cane cultivation from at least the late 1800's through the present.

Based upon our research, the potential for environmental impairment at the site is moderate to low. BESD's research into the site's history indicates that the subject site has been for sugar cane cultivation from at least the late 1800's through the present. The land use to the north and east has been sugar cane cultivation since at least the late 1800's until the present. Land use to the south and west was used for sugar cane until it became residential, sugar cane processing and commercial in approximately 1914.

The use of pesticides, including fungicides, insecticides and herbicides has occurred at the site as part of routine agricultural practices. The Federal Insecticide, Fungicide, Rodenticide Act (FIFRA) regulates the use of pesticides. Based on our research, there have been no reportable quantity releases of pesticides or other chemicals at the site as regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or the Hawaii Environmental Response Law (HERL).

During the site reconnaissance, a 55 gallon drum of unidentified contents and an unidentified white powder/ash was found on the subject site. The unidentified white powder/ash was noted on one of the rock/soil piles. BESD recommends that this material be removed from the site. No soil staining or evidence of a release was noted around the drum. BESD recommends that the drum(s) and any other debris (rock/soil piles) be removed prior to the purchase of the property. Additionally,

PhOWER INVESTMENTS LIMITED
Environmental Site Assessment
November 29, 1993

*Final - Privileged and
Confidential*

depending on the contents and condition of the drum(s), the soil in that area may be required to be sampled.

2.0 PURPOSE AND SCOPE

The purpose of this investigation was to evaluate, on the basis of readily available information, the potential presence of hazardous substances at the site as a result of current and/or past land use practices. Additionally, the potential for soil and/or groundwater contamination was assessed based on these practices. The area within one-half mile of the subject site was investigated in order to determine if sites within that range could adversely impact the site through the presence and/or release of hazardous substances into the environment.

Our scope of services included the following five elements:

1. REVIEW OF SITE HISTORY

- Reviewed and interpreted archival topographic maps, fire insurance maps, and aerial photographs for the years 1884, 1885, 1914, 1923, 1956, 1965, 1976 and 1983. The area within a one-half mile radius of the subject property was examined in order to obtain information regarding historical site land use that could have involved the manufacture, generation, use, storage and/or disposal of hazardous substances;
- Gathered information regarding past and/or current site development and/or land use provided by the Real Property Tax Office/ County of Maui Tax Division for Tax Map Keys (2) 4- 5- 7, 9, 10, 11, 12, 15, 21, 23, 24, 26 and 29 for the years 1943 through 1988.

2. REVIEW OF REGULATORY RECORDS

- Reviewed the following State of Hawaii Department of Health (DOH) and U.S. Environmental Protection Agency (EPA) lists of known or potential hazardous waste sites or landfills, and sites currently under investigation for environmental violations:

U.S. EPA Comprehensive Environmental Response, Compensation, and Liability Act Information Systems (CERCLIS) data base for the State of Hawaii, 1992;

U.S. EPA Resource Conservation and Recovery Act Information Systems (RCRIS) data base for the State of Hawaii, 1992;

U.S. EPA Resource Conservation and Recovery Act (RCRA) data base for the State of Hawaii, 1992;

State of Hawaii DOH Underground Storage Tank (UST) Program list of leaking USTs (LUST) and registered USTs, 1991;

and

DOH Hazard Evaluation and Emergency Response (HEER) list of hazardous materials release reports, 1991.

- Conducted written inquiries were to the following offices: US Environmental Protection Agency (EPA), Maui Fire Department (MFD), Maui Electric Company (MECO) and DOH Environmental Management Division. Replies from the EPA, MECO, MFD and DOH have been received.

3. SITE RECONNAISSANCE

- Performed a reconnaissance survey of the subject property and the area within a one-half mile radius of the site to make visual observations of existing site conditions, improvements, and/or operations, types of land use, nature of businesses within the search area. An asbestos survey was not performed as part of the scope of this investigation.
- Conducted interviews with the following persons:
 - Mr. Jim Bailey, Operations Manager, Pioneer Mill Company, Ltd.;
 - Mr. Don Gerbig, Director of Environmental Affairs and Safety, AMFAC Corporation;
 - Mr. John Jac Kean, Client; and
 - Mr. Steve Kramar, Sales Manager and Controller, The Sugar Cane Train.

4. REVIEW OF SITE GEOLOGY AND HYDROGEOLOGY

- Reviewed pertinent, available documents and maps regarding local geologic and hydrogeologic conditions:

Department of Land and Natural Resources (DLNR) water well records for the Lahaina, Maui, Hawaii area (1991);

MacDonald et al., 1983, Volcanoes in the Sea;

Soil Survey for the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, States Department of Agriculture (USDA) Soil Conservation Service (SCS) 1972;

State of Hawaii, DLNR, Hawaii Water Plan, Maui County Water Use and Development Plan, 1992;

State of Hawaii, DLNR, Hawaii Water Plan, Water Quality Plan, 1992;

State of Hawaii, DLNR, Hawaii Water Plan, Water Resources Protection Plan Volumes I and II, 1992;

and

Stearns, H.T. and MacDonald, G.A. 1966, Geology of Hawaii.

5. DATA EVALUATION AND REPORT PREPARATION

- Prepared this summary report describing the research performed and presenting BESD's findings, professional opinions, and recommendations for further investigations.

3.0 SITE DESCRIPTION

3.1 SITE LOCATION

The site is located in Lahaina, Maui, Hawaii (Figure 1, Site Location Map). The site consists of approximately 34.9 acres of relatively flat land with no existing structures. Topographic map coverage of the site vicinity is provided by the United States Geological Survey (USGS), Lahaina, Maui, Hawaii 7.5 minute quadrangle, 1983.

The elevation of the subject property is approximately 40 feet above mean sea level with a local topographic gradient of approximately 120 vertical feet per 2,000 feet in a northeasterly direction and approximately 30 vertical feet per 2,000 feet in a southwesterly direction as measured from the topographic map (Figure 1). The nearest large surface water is the Pacific Ocean, which is approximately 2,200 feet to the southwest.

3.2 GEOLOGY AND HYDROGEOLOGY

Regional Geology

The island of Maui is the second largest of the Hawaiian islands. Maui consists of two shield volcanoes with a connecting isthmus. The volcanic rocks of the West Maui Mountains (West Maui Volcano) are divided into three series. The oldest is the Wailuku Volcanic Series, followed by the Honolua and Lahaina Volcanic Series. The Wailuku series built the major shield volcano comprised of basaltic lava flows and associated pyroclastic and intrusive rocks. The Honolua series covered the Wailuku series with a thin coating of andesitic, trachytic and pyroclastic deposits. The Lahaina series then covered the western slopes of the West Maui Volcano.

The Haleakala Volcano last erupted in about 1790 and is presently dormant. The shield of the volcano is composed of aa and pahoehoe lava flows of tholeiite, tholeiitic olivine basalt and oceanite known as the Honomanu Volcanic Series. The Kula Volcanic Series overlays the Honomanu series and is comprised of hawaiiite,

alkalic olivine basalt and ankaramite. Lava flows from the Haleakala volcano formed the Maui isthmus made up of permeable basalt and erosional deposits.

Site Geology

The subject site is located on the western side the West Maui Mountains. The geologic conditions at the site are characterized as alluvium from the Kahoma Valley and the West Maui Volcano. Soil conditions at the site are classified by the SCS (1972) as Wahikuli very stony silty clay (WdB), with three to seven percent slopes. The soil formed in material weathered from basic igneous rock and are well-drained. These soils are used primarily for sugarcane with a small amount of the acreage used for homesites.

Surrounding soils are classified by the SCS (1972) as Wahikuli stony silty clay (WcC) within one half mile to the north and east of the site, Ewa silty clay loam (EaA) within one quarter mile south and west of the site and rock land (rRK) to the east along the Kahoma Stream. WcC consists of seven to fifteen percent slopes with stones at the surface and runoff slow to medium with the erosion hazard slight to moderate. EaA consists of zero to three percent slopes with the runoff very slow and the erosion hazard slight. rRK is made up of areas where twenty-five to ninety percent of the surface is covered by exposed basalt and andesite rock.

Regional Hydrogeology

The primary drinking water in the Hawaiian Islands is developed from basal groundwater. All of the island below sea level, except within rift zones of the volcanoes, is saturated with ocean salt water. Fresh water moving downward encounters the saltwater in the rocks, and because it is less dense than salt water, floats upon it; therefore, fresh basal water floating on salt water presses downward on the salt water forming a basal lens or a Ghyben-Herzberg lens. A zone of transition between the fresh groundwater and the ocean salt water occurs due to the constant movement of the interface.

Recharge to the basal groundwater bodies is greatest in the interior mountainous areas. Groundwater levels are high in these areas which causes groundwater to flow, generally, from the interior to the shoreline. Frictional resistance to groundwater flow cause it to pile up within the island until it attains sufficient hydraulic head to overcome friction. For this reason basal groundwater acquires a slope toward the shoreline.

Not all water percolating downward through the zone of aeration goes directly into the basal water table. Perched groundwater occurs when descending water encounters an impermeable layer of soil or rock. A perching member may be a bed of dense lava; however, more commonly it is either alluvium or volcanic ash. A type of high level or perched groundwater is dike-confined water bodies, generally identified by natural spring discharges.

Site Hydrogeology

The subject site is located on the Launiupoko system of the Lahaina aquifer sector. In the site area, fresh water is in contact with the sea water and the water table is the upper surface of the saturated aquifer layer. The site is on the underground injection control (UIC) line. The groundwater flow direction is expected to be southwest, towards the Pacific Ocean.

The Launiupoko aquifer system consists of fresh basal groundwater in Wailuku basalt that extends two miles inland from the coast, beyond this is high level dike water also in the Wailuku basalt. The basal groundwaters occur in these flank lavas which are covered at the coast by a narrow shelf of sediments.

There are over ten wells drilled within one square mile of the subject site in Lahaina according to the DLNR Groundwater Index, 1991. These are irrigation, industrial, municipal and observation wells. No water wells exist at the site. No drinking water wells are shown to be located within one square mile of the site. A 39 feet deep industrial well is located one-quarter mile north of the subject site and slightly down gradient.

3.3 CURRENT SITE LAYOUT

The subject site occupies an estimated 34.9 acres of land bordered on the south by Kahoma Stream in Lahaina, Maui, Hawaii (Figure 2, Site Plan Map). The site, known as Tax Map Key (2) 4- 5- 10: 5, is semi-rectangular in shape and primarily contains sugar cane. The surrounding properties consist of sugar cane land to the north and east, a graded vacant lot to the west and a sugar mill and residential area to the south.

3.4 PAST LAND USE

Information regarding past site land use was obtained by a review of historical aerial photographs and archival topographic maps viewed at the University of Hawaii Hamilton Library Map Collection. Fire insurance maps were viewed in the microfilm collection of the Hamilton Library. BESD compiled the following site history:

1884: Hawaiian Government Survey, Town of Lahaina, Maui 1: 24,000

This map shows the subject site area without structures present. One structure is shown on the southwest corner of the site, just north of the Kahoma Stream's present location (Figure 3, Site Layout). Four structures are shown on the east adjacent property near the site's border. A roadway is shown on the west side of the site. No details are given regarding what the structures were used for.

1885: Hawaiian Government Survey, Maui Hawaiian Islands, W.D. Alexander Surveyor, 1: 60,000

This map shows the site and surrounding areas encompassed by a border that represents the location of sugar cane plantations. Further detail shows the subject site as public land. Structures are not shown on this map. Groundwater flow for the site area is shown to be southwest.

1914: Sanborn Fire Insurance Maps

This map does not extend to the subject site. This map shows the Pioneer Mill at its present day location. The areas that are 300 feet west and south of the subject site are labeled "cane". The subject site is not shown on the map.

1923: USGS Hawaii, Island and County of Maui Lahaina District Mala Quadrangle, polyconic projection, 1: 31,680

This map does not show structures being present on the subject site. The site area is flat to gently sloping. An unspecified pipeline is shown approximately 1,700 feet north of the site and north of the north adjacent property. Structures are shown south of the Kahoma Stream within the site area. No details are given regarding these structures.

1956: USGS Hawaii, Island and County of Maui, Lahaina Quadrangle, 1: 24,000

No structures are shown on the site or the adjacent properties to the north, west or east. The site is flat to gently sloping. Structures are shown south of Kahoma Stream. Cisterns are shown 1,400 feet to the north of the site and 3,500 feet east of the site. A shaft pump is located along Kahoma Stream approximately one mile upstream from the site. A crater reservoir is located one mile northeast of the site.

1965: ASCS Aerial Photograph, no scale given

No structures are shown on the site or the adjacent properties to the north, west or east. Structures are shown south of Kahoma Stream at the present day location of Pioneer Mill. A reservoir is shown northeast of the site.

1976: USGS Aerial Photograph, no scale given

No structures are shown on the site or the adjacent properties to the north, west or east. Structures are shown south of Kahoma Stream at the present day location of Pioneer Mill and the south residential area. A reservoir is shown northeast of the site. The site appears to be flat to gently sloping.

1983 : USGS Lahaina Quadrangle, 1: 24,000

No structures are shown on the subject site property or adjacent properties except for the area south of Kahoma Stream. The site is essentially flat with a slight change in elevation northeast to southwest. A gauging station is located 1,200 feet to the west of the subject site on Kahoma Stream. The sugar mill is approximately one-quarter mile south of the site. A water tower and two cisterns are located 3,500 feet east of the site.

1988: Map of Parcel 5-B, Kahoma Stream Flood Control Project, at Moalii, Lahaina, Maui, Hawaii, 1: 1,200

This map shows the current site boundaries and Kahoma Stream location. The site is described as parcel 5-B. The stream is described as right-of-way parcel 7. Parcel 5-A is the area south of the site where the Kahoma Stream was previously located. An electrical easement exists on the west border of the site. The west adjacent property is described as parcel 1-A. No structures are shown.

1993: Aerial Photograph, no scale given

This aerial photograph shows no structures on the subject site. Two large rock/soil piles are visible on the site. One pile is located on the west central portion of the site. The other pile straddles the northeast border of the site. The site appears to be in sugar cane cultivation. No structures are shown on the site or the adjacent properties to the north, west or east. Truck paths run east-west and north-south across the site and around the rock/soil piles. Kahoma Stream is visible as a cement culvert in its current position which is immediately bordering the site on the south. Kahoma Stream's previous location is visible as a graded area south of the stream. A housing development is located 1,000 feet to the northwest of the site and immediately north of the west adjacent property. Sugar cane railway tracks were not visible on the aerial photo. Pioneer Mill is visible 2,000 feet south of the site.

1943-1988: County of Maui Tax Division Land Appraisals for TMK (2) 4-5-10 including plats: 9, 11, 21 and 23 of the surrounding properties.

Land Appraisals for TMK 4-5-10

1943 to 1967- Pioneer Mill Company owned the subject site. During this period the parcel increased from 53.51 acres to 62.98 acres and then reduced to 37.742 acres.

1988- Three temporary buildings were constructed along Kahoma Stream, south of its present day location.

Land Appraisals for TMK 4-5-9

1961 to 1968- Pioneer Mill Co. leased parcel one, which is west of Pioneer Mill, to Texaco. A service station and canopy were constructed.

1972 to 1983- Pioneer Mill owned 19.593 acres of parcel seven, Pioneer Mill's present location, and AMFAC owned 0.027 acres. During this period up to 27 buildings existed on this parcel.

1982-1986- The Hawaii Omori Corporation owned parcel two, which is part of the west adjacent property. During this period a building was moved and an office and deck were built. In 1986, a luxury sports car rental business leased the trailer and deck.

PhOWER INVESTMENTS LIMITED
Environmental Site Assessment
November 29, 1993

*Final - Privileged and
Confidential*

Land Appraisals for TMK 4-5-11

Hawaii Omori Corporation leased part of parcel one to the railroad and owned parcels three and four. These parcels are part of the site's west adjacent property.

Land Appraisals for TMK 4-5-21

1966- A pump house was constructed on parcel three, part of the site's east adjacent property.

1974- Pioneer Mill Company leased 887 acres of the 1134.7 acre parcel three from the State of Hawaii for twenty years to be dedicated for sugar cane use. This is the site's east adjacent property.

1974- The State of Hawaii dedicated 305.92 acres of the 669,550 acre parcel four for twenty years to the Pioneer Mill Company for sugar cane use. This property is located north of the subject site.

4.0 PRESENT SITE CONDITIONS

4.1 SITE RECONNAISSANCE

On Friday, June 9, 1993, BESD personnel, performed a site reconnaissance of the property to note visual signs of contamination, interview individuals possessing knowledge about current and past practices at the subject site and surrounding area, and to conduct a brief assessment of the surrounding area.

After visiting the subject site, BESD personnel walked and drove through the surrounding area. Visual observations were made of the existing conditions, type of land use and nature of businesses, if any, in the area. Land use in the area is residential, commercial, industrial, agricultural, and municipal.

4.1.1 Pioneer Mill Property (Subject Site)

Sugar cane covers a majority of the semi-rectangular site. The sugar cane is approximately one year old and has one more year of growth before it will be cut (personal communication with Mr. Jim Bailey, Pioneer Mill Company, Ltd.). Two

large rock/soil piles are located on the site. No buildings are located on the site. No unseasonably dead or stressed vegetation was noted.

Irrigation piping and tubing are located throughout the site. The main irrigation lines run underground. Currently the site is being irrigated by the drip irrigation method. Irrigation pipes were noted along the truck paths (Figure 3, Site Layout Map). These truck paths run throughout the site and around the rock/soil piles.

A truck path is located on the south side of the subject site along Kahoma Stream. No debris or stressed vegetation was noted along the path. Four utility poles are located along the site on Kahoma Road. No pole mounted transformers were noted by BESD personnel on these poles.

The north side of the property is covered by sugar cane and extends to the north adjacent property. A rock/soil pile is located along the northeast side of the site. The fragments of cement, aluminum scraps and an aerosol can of unknown contents were located on the top of the pile. Vegetation on and at the base of the soil pile consisted of grass and Haole Koa trees.

Sugar cane extends over the eastern portion of the site and onto the east adjacent property.

A soil pile is located in the center of the site. The pile consists of large rocks, soil and various types of debris. Large truck and agricultural machinery parts were located on the top of the soil pile. Metal scraps, cane, irrigation tubing, polyvinyl chloride (PVC) piping, instrument gauges and a white powder/ash substance were also noted on the soil pile. The large basalt rocks located on the pile are from the cane fields and have been placed on the piles throughout the years of sugar cane cultivation (personal communication with Mr. Bailey). Haole Koa trees are located around the base of the pile. Additionally, Mr. Bailey stated that, cement irrigation flumes and footer type forms were discarded onto the south side of the pile.

Burnt areas and ash were noted on and around the rock/soil pile. Mr. Bailey stated that the burnt/ash areas are from fire that had been introduced to the piles to control vegetation growth. (The rock/soil piles are burnt along with the cane fields.) An unmarked, rusted 55 gallon drum was located at the base of the pile on the south central side. It could not be determined if the drum was empty or even if there was more than one drum because boulders and vegetation cover the drum area.

PhOWER INVESTMENTS LIMITED
Environmental Site Assessment
November 29, 1993

*Final - Privileged and
Confidential*

4.1.2 Adjacent Properties

- **Northern Adjacent Property**

The north adjacent property is and has been leased by the Pioneer Mill Company from the State of Hawaii since the late 1800's (personal communication with Mr. Don Gerbig, AMFAC). Pioneer Mill is currently growing sugar cane on the property. No structures are located on the property. BESD personnel did not note any unseasonably dead or stressed vegetation on that site. No transformers were noted on the north adjacent property. No evidence of dumping or chemically impacted soil was noted on the site.

- **Eastern Adjacent Property**

The east adjacent property is and has been leased by the Pioneer Mill Company from the State of Hawaii since the late 1800's (personal communication with Mr. Don Gerbig). Sugar cane is currently growing on the property. No structures are located on the property. BESD personnel did not note any unseasonably dead or stressed vegetation on the east adjacent property. No transformers were noted on the north adjacent property. No evidence of dumping or chemically impacted soil was noted on the site.

- **Southern Adjacent Properties**

South of the subject site is the Kahoma Stream. Kahoma Stream separates the subject site from Pioneer Mill Company's mill and a residential area. The Kahoma stream is presently a cement culvert with a catchment basin upstream along the site's east adjacent property. The stream was relocated in 1988 as part of a flood control project undertaken by the County of Maui. The stream banks are separated from adjacent properties by a chain link fence. South of the stream's present location is the remnant area of the former meandering stream. This area has been filled with soil and graded.

South of the stream and slightly down gradient of the site, is the Pioneer Mill Company's sugar mill/process area. BESD did not visit the sugar mill/process area during the site reconnaissance due to the high level of activity occurring at the time. Southeast of the subject site is a residential area made up of single family dwellings.

- **Western Adjacent Property**

The western adjacent property is currently owned by the Hawaii Omori Corporation with a portion being leased to Railroads of Hawaii. At the time of the site visit the property was being graded and soil was being introduced. The property is presently being developed for industrial use (personal communication with Mr. Kean, client). Train tracks run the length of the property along Kahoma Road. The railway is a tourist attraction and has been used for this purpose for over twenty years (personal communication with Mr. Kramar, The Sugar Cane Train).

4.2 PERSONNEL INTERVIEWS

BESD conducted interviews with persons who possess relevant information regarding site history and/or land use activities. Presented below is a listing of the persons interviewed and a summary of the significant findings from the interview process.

4.2.1 Mr. Jim Bailey, Operations Manager, Pioneer Mill Company, Ltd.

BESD personnel spoke with Mr. Jim Bailey on Friday, July 9, 1993. Mr. Bailey stated that he has been with the Pioneer Mill Company for seven months.

Mr. Bailey told BESD personnel that the sugar cane on the subject site is one year old and that it had one more year to mature. He told BESD that the cane field has an underground irrigation system. He said that the broken cement forms around the base of the rock/soil piles located on the subject site are from irrigation flumes and heads.

Mr. Bailey said that the rocks observed on the soil piles were from the cane fields. He did not know how long the equipment noted on the piles had been there. He also stated that the rock/soil piles are burned to control vegetation growth when the fields are burnt. Mr. Bailey told BESD to contact AMFAC's Land Management Office for further information on the site.

4.2.2 Mr. Don Gerbig, Director of Environmental Affairs and Safety , AMFAC Corporation

BESD personnel contacted Mr. Gerbig by telephone on Tuesday, July 20, 1993. Mr. Gerbig has been with Pioneer Mill/AMFAC for seven years. BESD personnel asked Mr. Gerbig how long Pioneer Mill Company, Limited has owned the subject site and how long sugar cane cultivation has been taking place on the site. He stated that Pioneer Mill has owned the site and cultivated sugar cane on the property since the late 1800's. He stated that Pioneer Mill has "always" leased the land north of the site.

Mr. Gerbig said that there have not been any structures on the site or on the north and east adjacent properties controlled by Pioneer Mill. He stated that there is a "K-Pump House", east of the site. Mr. Gerbig told BESD that the temporary structures noted on parcel 5, south of the subject site and north of Kahoma Stream, were from the Kahoma Stream relocation project and that they were not owned by Pioneer Mill.

Mr. Gerbig stated that the irrigation system uses primarily stream and or well water. Mr. Gerbig said that there are no wells or cesspools on the subject site. Mr. Gerbig stated that there have been no drains or sumps at the site.

BESD personnel asked Mr. Gerbig if there are any USTs or pipelines on the site. He stated that there are no USTs on the site or the cane lands controlled by Pioneer Mill. Mr. Gerbig said that there are no pipelines on the site except for the irrigation lines.

Mr. Gerbig stated that Pioneer Mill uses the standard industry registered pesticides, primarily herbicides, and that they are applied at label rates. He also stated that they use standard fertilizers.

Mr. Gerbig said that there have been no spills or storage of chemicals on the property. Mr. Gerbig stated that there has been no contamination from the surrounding properties or the mill and that the wash water from the mill is pumped south. He also stated that there has been no contamination from the north and east cane lands. Mr. Gerbig stated that no soils or wastes have been removed from the site. Mr. Gerbig stated that he was unaware of the drums at the site.

BESD personnel asked Mr. Gerbig if there were any additional comments about the site. Mr. Gerbig told BESD that soil was added to the old Kahoma Stream location when the relocation project took place. He also added that the rocks on the piles are from the cane fields. He said that large rocks brought to the soil surface

during plowing would be moved to the existing rock/soil piles. He stated that there is equipment on the soil piles.

4.2.3 Mr. John Jac Kean, Client

BESD personnel interviewed Mr. John Jac Kean during the site visit on Friday, July 9, 1993.

Mr. Kean told BESD personnel that the old Kahoma Stream had been filled and graded and that the stream is owned by the County of Maui. He told BESD personnel that the sugar cane fields surrounding the site are on state lease property and that the subject site is owned by Pioneer Mill Company, Limited.

4.2.4 Mr. Steve Kramar, Sales Manager and Controller, The Sugar Cane Train

BESD personnel contacted Mr. Steve Kramar by telephone on Wednesday, July 14, 1993. Mr. Kramar stated that the tourist railroad and station had been at its present location and had been operating for the past twenty years. He said that before the present owners another company had owned the railroad. He stated that the property is leased from the AMFAC Corporation.

Mr. Kramar said that their water is supplied by the AMFAC Corporation's water system (Kaanapali Water Supply). Mr. Kramar stated that there are no drains or sumps at the facility. Mr. Kramar stated that there are no underground storage tanks on the property. Mr. Kramar stated that there were transformers but he did not know the number of transformers or locations.

Mr. Kramar said that Roundup herbicide is used along the tracks to control weeds. He said that he does not know about the use of fertilizers at the site.

4.3 AGENCY LISTS REVIEW

BESD conducted a review of readily available, applicable regulatory agency lists of known or potential hazardous waste sites or landfills, and sites currently under investigation by the US EPA or State of Hawaii DOH. The following lists were reviewed to identify sites located within one-half mile of the site which may have the potential to adversely impact environmental conditions at the subject property:

- **U.S. EPA CERCLIS List 1992 for the State of Hawaii:**

There are no sites listed within a one half mile radius of the subject site. The nature of the investigations pertains to the presence of pesticides in ground water. Although there has been evidence of pesticide related chemicals, atrazine, in the groundwater for the area, no CERCLIS reports have been made as of 1992.

- **U.S. EPA RCRA list 1992 for the State of Hawaii:**

There are no listed hazardous waste generators or transporters at the site. Pioneer Mill Co. Ltd., and Luxury Sports Car Rental, which was previously located on the west adjacent property, are listed as small quantity generators.

- **U.S. EPA RCRIS list 1992 for the State of Hawaii sites within a one half mile radius of the subject site:**

No sites within a half mile radius of the subject site are listed in the RCRIS database.

- **DOH LUST list 1991 for the State of Hawaii sites within a one mile radius of the subject site:**

Circle K Hawaii, Inc. #8922
821 Dickenson Street
Lahaina, Maui, Hawaii

Leak ID: 900005
Facility ID: 9-501862

No leaking USTs are listed at the site or surrounding properties.

- **DOH UST State of Hawaii list 1991 for sites within a mile radius of the subject site:**

Facility ID: 9-500772, 9-500777
Location: 380 Lahainaluna Road
Owner: Pioneer Mill Co., Ltd.

Tank(s): (1) 1,000 gallon steel gasoline, 34 yr old
(1) 1,000 gallon steel kerosine, 33 yr old
(1) 1,000 gallon steel solvent, 32 yr old
(2) 25,620 gallon steel #6 fuel, 24 yr old

Facility ID: 9-500421
Location: 263 Lahainaluna Road
Owner: Texaco Station
Tank(s): (3) 8,000 gallon lined fiberglass/plastic gasoline, 8 yr old
(1) 550 gallon lined fiberglass/plastic used oil, 8 yr old

Facility ID: 9-501009
Location: Papalaua/Wainee
Owner: Shell Service Station
Tank(s): (2) 10,000 gallon lined fiberglass/plastic gasoline, 5 yr old
(1) 10,000 gallon lined fiberglass/plastic gasoline, 7 yr old
(2) 550 gallon steel used oil, 23 yr old

Facility ID: 9-500558
Location: 147 Dickenson Street
Owner: GTE-Lahaina Central Office
Tank(s): (1) 285 gallon steel diesel, 22 yr old

• **DOH HEER list of reported chemical releases for the State of Hawaii; sites within a one half mile radius of the subject site:**

There are two chemical releases listed since 1983 within a one half mile radius of the site. One release of diesel oil was at the Lahiana Harbor. The second release, hydrogen sulfide, was at the Wharf Center. Both sites are down gradient from the site. No chemical release reports were made for the subject site.

4.4 HAZARDOUS MATERIALS

Research indicates that the subject site was used for sugar cane cultivation. Routine applications of pesticides were made as part of sugar cane cultivation practices. Residues of pesticides may exist in soil at the site. No visual or olfactory

evidence of pesticide contamination was noted at the site and no reportable quantity releases of chemicals at the site were noted in the DOH or EPA databases.

BESD submitted letters to the DOH, US EPA, MECO and the MFD requesting information regarding the environmental compliance for the subject site and surrounding properties. Replies from the above listed agencies did not change the nature of our conclusions or recommendations.

4.5 ABOVEGROUND AND UNDERGROUND STORAGE TANKS

BESD examined the DOH UST Program list of registered tanks (dated 1991) which shows that there are fifteen listed UST's within a one mile radius of the site area. Five of these registered tanks are located at the Pioneer Mill Company, Ltd. on Lahainaluna Road which is located south of the site and Kahoma Stream. Four of the registered tanks are located at the Texaco station on Lahainaluna Road to the west of the Pioneer Mill Company. Five of these registered tanks are located at the Shell Service Station on the corner of Papalaua and Wainee Street one-quarter mile southwest of the site. One registered tank is located at the GTE-Lahaina Central Office over one-half mile south of the site. According to the DOH Leaking UST (LUST) list (dated 1991), there were no facilities within a half mile radius of the site area reporting leaking USTs. The GTE-Lahaina Central Office has had a leaking UST. Additional information was requested from the State of Hawaii DOH UST program regarding the registered tanks. The DOH's reply did not change the nature of our conclusions or recommendations.

4.6 ASBESTOS SURVEY

An asbestos survey was not conducted.

4.7 PCB-CONTAINING MATERIALS

No transformers were located on the site or directly bordering the site at the time of the site visit. BESD personnel contacted Mr. Art Takabayashi, Construction Superintendent, Maui Electric Company, by telephone on Wednesday, July 14, 1993 regarding possible PCB transformers in the site area. Mr. Takabayashi stated that MECO's transformers on Maui are not PCB containing transformers. He stated that

PhOWER INVESTMENTS LIMITED
Environmental Site Assessment
November 29, 1993

*Final - Privileged and
Confidential*

all of MECO's transformers are mineral oil transformers. It is unknown what the PCB status is for the transformers located at the Sugar Cane Train Railroad.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based upon our research, the potential for environmental impairment at the site is moderate to low. BESD's research into the site's history indicates that the subject site has been for sugar cane cultivation from at least the late 1800's through the present. The land use to the north and east has been sugar cane cultivation since at least the late 1800's until the present. Land use to the south and west was used for sugar cane until it became residential, sugar cane processing and commercial in approximately 1914.

The use of pesticides, including fungicides, insecticides and herbicides has occurred at the site as part of routine agricultural practices. The Federal Insecticide, Fungicide, Rodenticide Act (FIFRA) regulates the use of pesticides. Based on our research, there have been no reportable quantity releases of pesticides or other chemicals at the site as regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or the Hawaii Environmental Response Law (HERL). Pesticide impacted soil which results from routine applications of pesticides are not currently regulated. If the soils are considered waste the soil would not be treated as a hazardous waste nor would the soil be required to be tested for characteristics of hazardous waste provided that the pesticides were applied properly.

During the site reconnaissance, a 55 gallon drum of unidentified contents and an unidentified white powder/ash was found on the subject site. The unidentified white powder/ash was noted on one of the rock/soil piles. BESD recommends that this material be removed from the site. No soil staining or evidence of a release was noted around the drum. BESD recommends that the drum(s) and any other debris (rock/soil piles) be removed prior to the purchase of the property. Additionally, depending on the contents and condition of the drum(s), the soil in that area may be required to be sampled.

6.0 LIMITATIONS

This report is a preliminary environmental site assessment. We have based our conclusions and recommendations on research and a visual site inspection. Even with extensive sampling and testing, we cannot guaranty or warrant that the

PhOWER INVESTMENTS LIMITED
Environmental Site Assessment
November 29, 1993

*Final - Privileged and
Confidential*

site is free of contamination. We do warrant that our services are performed with the usual competence and thoroughness of the consulting profession, in accordance with the standard operating procedures of this time. Brewer Environmental Services does not provide any other guarantee or warranty.

Figures 1 through 3, a photograph and references are attached and complete the report.

7.0 REFERENCES

- Aerial Photographs. University of Hawaii, Hamilton Library Map Collection. Photos dated 1965, 1976 and 1993.
- Alexander, W.D., Surveyor, Hawaiian Government Survey, Maui Hawaiian Islands, 1885 updated 1903, 1: 60,000. University of Hawaii, Hamilton Library Map Collection.
- Alexander, W.D., Surveyor, Hawaiian Government Survey, Town of Lahaina Maui, 1884 updated 1903, 1: 2,400. University of Hawaii, Hamilton Library Map Collection.
- Bailey, Mr. Jim, Operations Manager, Pioneer Mill Company, Ltd., Personal Communication, July 1993.
- Brewer Environmental Services Division Job #33-27, Underground Storage Tank Site Characterization Report, GTE-Hawaiian Tel's Lahaina Central Office, Lahaina, Maui, Hawaii, April 30, 1993.
- County of Maui Fire Department, response dated July 29, 1993.
- Gerbig, Mr. Don, Director of Environmental Affairs and Safety, AMFAC, Personal Communication, July 1993.
- Kean, Mr. John Jac, Client, Personal Communication, July 1993.
- Kramar, Mr. Steve, Sales Manager and Controller, The Sugar Cane Train, Personal Communication, July 1993.
- MacDonald, G. et al., 1983, Volcanoes in the Sea, University of Hawaii Press, Honolulu, Hawaii.
- Real Property Tax Office/ County of Maui Tax Division for Tax Map Keys (2) 4- 5- 7, 9, 10, 11, 12, 15, 21, 23, 24, 26 and 29 for the years 1943 through 1988.
- Saiki, Albert S., Kahoma Stream Flood Control Project, Map of Parcel 5-B, 1993.

PhOWER INVESTMENTS LIMITED
Environmental Site Assessment
November 29, 1993

*Final - Privileged and
Confidential*

- Sanborn Fire Insurance Map 1914.
- Soil Conservation Survey, Soil Survey for the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, 1972, United States Department of Agriculture (USDA).
- State of Hawaii Department of Health - Hazard Evaluation and Emergency Response. List of Hazardous Materials Releases. May 22, 1991.
- State of Hawaii, Department of Health, LUST Database, April 1991.
- State of Hawaii, Department of Health, response dated October 4, 1993.
- State of Hawaii, DLNR, Hawaii Water Plan, Maui County Water Use and Development Plan, 1992.
- State of Hawaii, DLNR, Hawaii Water Plan, Water Quality Plan, 1992.
- State of Hawaii, DLNR, Hawaii Water Plan, Water Resources Protection Plan, 1992.
- State of Hawaii, DLNR, Ground Water Well Index. 1991.
- State of Hawaii, Department of Health, UST Database, March, 1991.
- Stearns, H.T. and MacDonald, G.A. Geology of Hawaii , 1966.
- Takabayashi, Mr. Art, Construction Superintendent, Maui Electric Company, Personal Communication, July 1993.
- U.S. EPA CERCLIS Database, 1992.
- U.S. EPA RCRA Database, 1992.
- U.S. EPA RCRIS Database, 1992.
- U.S. EPA, responses dated July 27, 1993; July 30, 1993; August 12, 1993; August 18, 1993; and September 7, 1993.

PhOWER INVESTMENTS LIMITED
Environmental Site Assessment
November 29, 1993

*Final - Privileged and
Confidential*

USGS, Hawaii Island and County of Maui, Lahaina District, Mala Quadrangle, 1923,
1: 31,680. University of Hawaii, Hamilton Library Map Collection.

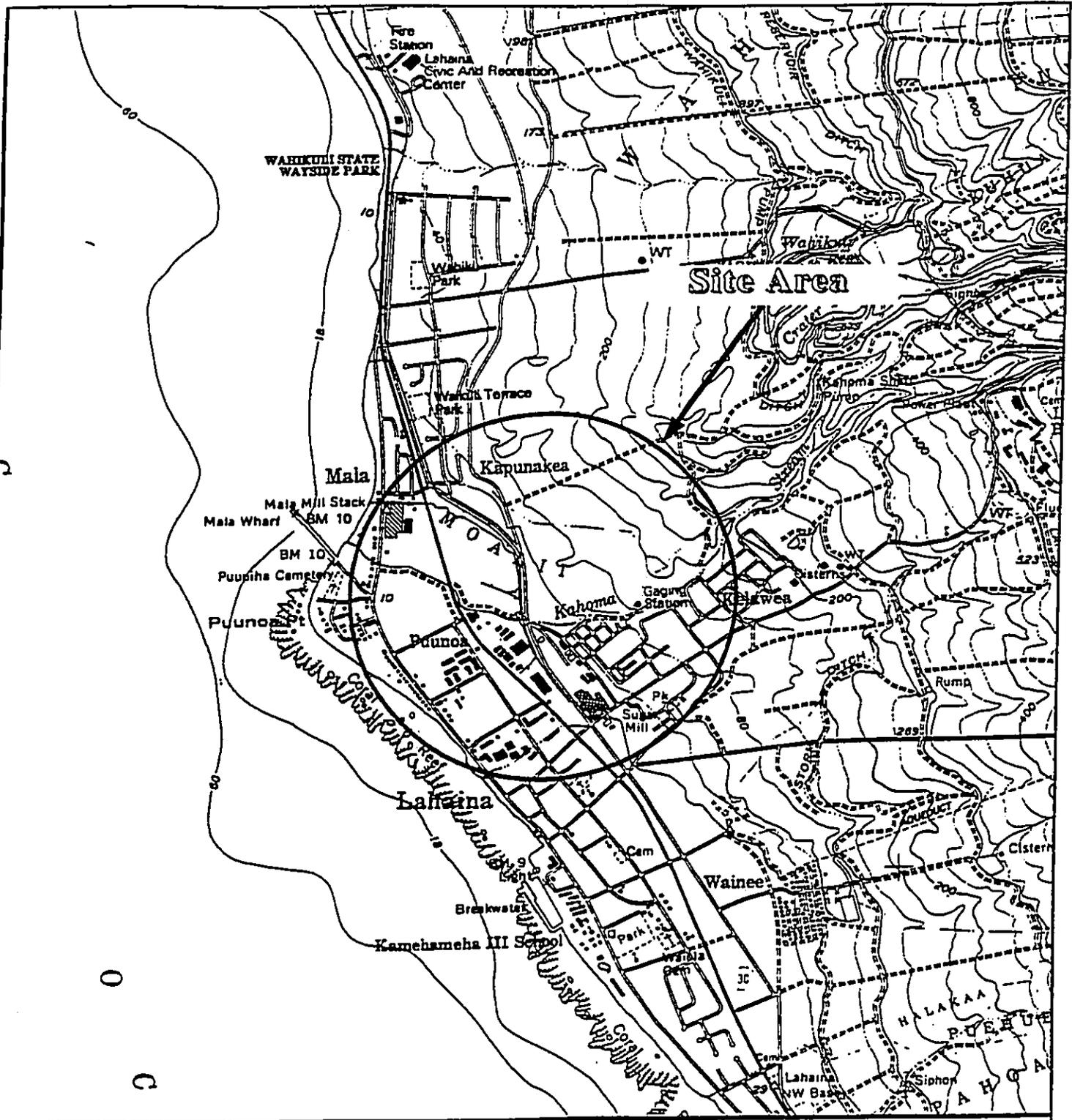
USGS, Topographic Map, Hawaii Island and County of Maui, Lahaina 7.5 minute
Quadrangle, 1956, 1: 24,000. University of Hawaii, Hamilton Library Map
Collection.

USGS, Topographic Map, Lahaina 7.5 minute Quadrangle, Island of Maui, Hawaii,
1983, 1: 24,000.

PhOWER INVESTMENTS LIMITED
Environmental Site Assessment
November 29, 1993

*Final - Privileged and
Confidential*

FIGURES



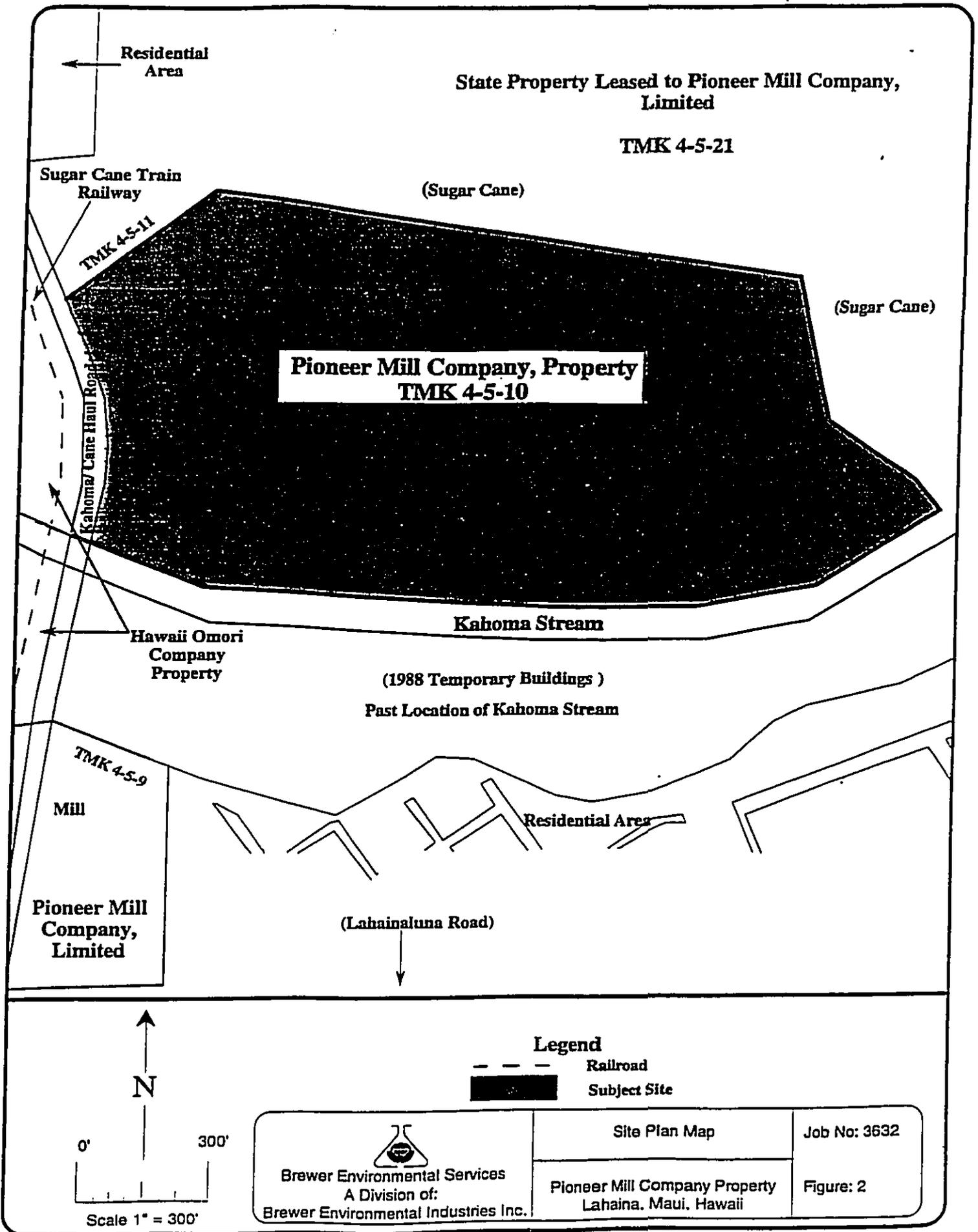
Legend

Scale 1:24,000

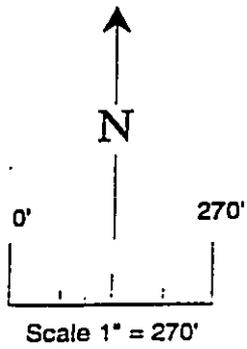
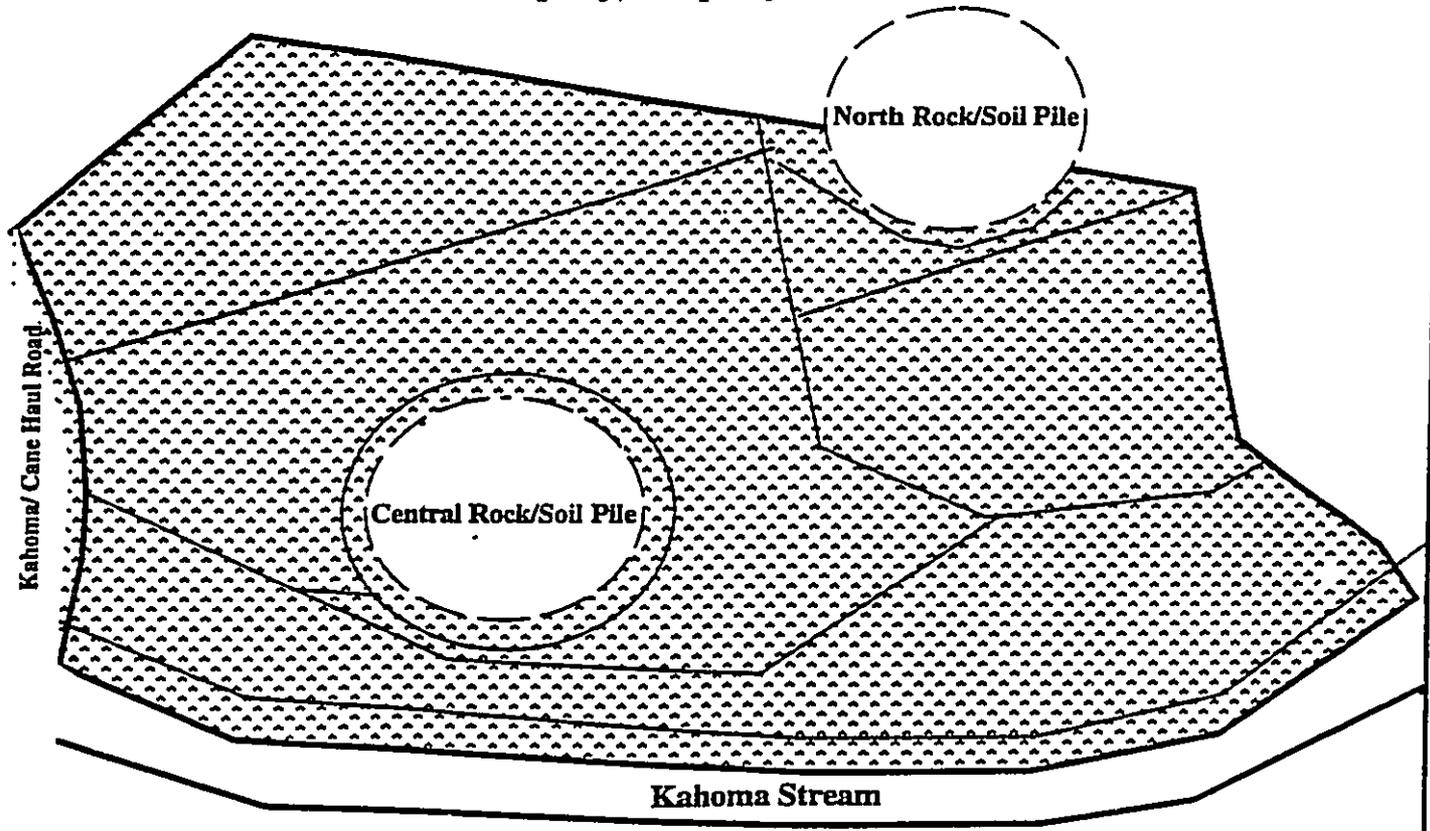
Source: USGS 7.5 Minute Quadrangle, Lahaina, Hawaii, 1983.

 Brewer Environmental Services A Division Of: Brewer Environmental Industries Inc.	Site Location Map	Job No: 3632
	Pioneer Mill Co., Ltd. Property Lahaina, Maui, Hawaii	Figure: 1

DOCUMENT CAPTURED AS RECEIVED



Pioneer Mill Company, Property



Legend

-  Truck Path
-  Sugar Cane

 Brewer Environmental Services A Division of: Brewer Environmental Industries Inc.	Site Layout Map	Job No: 3632
	Pioneer Mill Company Property Lahaina, Maui, Hawaii	Figure: 3

PhOWER INVESTMENTS LIMITED
Environmental Site Assessment
November 29, 1993

*Final - Privileged and
Confidential*



Photo 1- Central Soil Pile 55 Gallon Drum

DOCUMENT CAPTURED AS RECEIVED



BREWER
ENVIRONMENTAL
INDUSTRIES, INC.
A C BREWER company

*Final - Privileged and
Confidential*

Environmental Services Division

Mr. Hoolae Paoa
PhOWER Investments, Ltd.
1188 Bishop Street, Suite 902
Honolulu, HI 96813

November 29, 1993
BESD Job # 3632

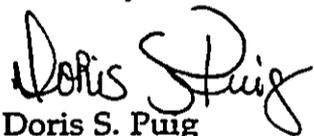
Subject: **Preliminary Environmental Site Assessment - Phase I Report**
Pioneer Mill Company, Limited Property
Tax Map Key (2) 4 - 5 - 10: 5
Kahoma Road
Lahaina, Maui, Hawaii

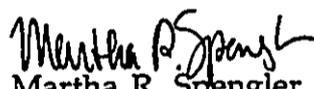
Dear Mr. Paoa:

Brewer Environmental Services has completed an environmental site assessment report for the above-referenced site. A detailed account of the investigation is presented in the following document.

If there are any questions, please contact our office at 832-7902.

Sincerely,


Doris S. Puig
Environmental Scientist


Martha R. Spengler
Project Manager

DSP Disk E2-3632

Brewer Environmental Services

BREWER ENVIRONMENTAL INDUSTRIES, INC.
P.O. BOX 48
HONOLULU, HI 96810
PHONE (808) 832-7902
FAX (808) 832-7901

*Final - Privileged and
Confidential*

**PRELIMINARY ENVIRONMENTAL
SITE ASSESSMENT**

**Pioneer Mill Company Limited Property
Lahaina, Maui, Hawaii**

BESD Job No. 3632

**Prepared for:
PhOWER Investments Limited**

November 29, 1993

**Prepared by:
Brewer Environmental Services Division
of
Brewer Environmental Industries, Inc.**

Final - Privileged and
Confidential

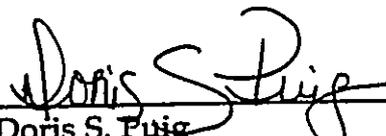
A Report Prepared For:

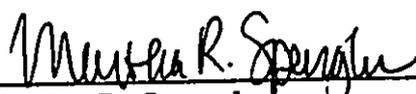
PhOWER Investments, Ltd.
1188 Bishop Street, Suite 902
Honolulu, HI 96813

PRELIMINARY ENVIRONMENTAL SITE ASSESSMENT - PHASE I REPORT
PIONEER COMPANY LIMITED PROPERTY
TAX MAP KEY: (2) 4 - 5 - 10: 5
LAHAINA, MAUI, HAWAII

BESD Job No. 3632

by:


Doris S. Puig
Environmental Scientist


Martha R. Spengler
Project Manager

Brewer Environmental Services Division
1930 Auiki Street
Honolulu, HI 96819

November 29, 1993

TABLE OF CONTENTS

	<u>Page</u>
Title Page	i
Signature Page	ii
1.0 Executive Summary	1
2.0 Purpose and Scope	2
3.0 Site Description	5
3.1 Site Location	5
3.2 Geology and Hydrogeology	5
3.3 Current Site Layout	7
3.4 Past Land Use	7
4.0 Present Site Conditions	11
4.1 Site Reconnaissance	11
4.1.1 Pioneer Mill Company, Limited Property	11
4.1.2 Adjacent Properties	13
4.2 Personnel Interviews	14
4.2.1 Mr. Jim Bailey, Operations Manager, Pioneer Mill Company, Ltd.	14
4.2.2 Mr. Don Gerbig, Director of Environmental Affairs and Safety, AMFAC	14
4.2.3 Mr. John Jac Kean, Client	16
4.2.4 Mr. Steve Kramar, Sales Manager and Controller, The Sugar Cane Train	16
4.3 Agency Lists Review	16
4.4 Hazardous Materials	18
4.5 Aboveground and Underground Storage Tanks	19
4.6 Asbestos Survey	19
4.7 PCB-Containing Materials	19
5.0 Conclusions and Recommendations	20
6.0 Limitations	20
7.0 References	22

PhOWER INVESTMENTS LIMITED
Environmental Site Assessment
November 29, 1993

*Final - Privileged and
Confidential*

FIGURES

- Figure 1 - Location Map
- Figure 2 - Site Plan Map
- Figure 3 - Site Layout
- Photo - Central Soil Pile 55 gallon Drum

1.0 EXECUTIVE SUMMARY

This report presents the results of Brewer Environmental Services Division's (BESD's) Phase I Preliminary Environmental Site Assessment (ESA) of the Pioneer Mill Company Limited property at Kahoma/Cane Haul Road, Lahaina, Maui, Hawaii in accordance with our proposal dated July 1, 1993. A notice to proceed was received on July 6, 1993.

Our assessment was conducted to evaluate the existing conditions at the approximately 34.9 acre site and to investigate the site's history and identify areas of potential environmental concern. Our research of the site's history indicates that the subject site and surrounding area was used for sugar cane cultivation from at least the late 1800's through the present.

Based upon our research, the potential for environmental impairment at the site is moderate to low. BESD's research into the site's history indicates that the subject site has been for sugar cane cultivation from at least the late 1800's through the present. The land use to the north and east has been sugar cane cultivation since at least the late 1800's until the present. Land use to the south and west was used for sugar cane until it became residential, sugar cane processing and commercial in approximately 1914.

The use of pesticides, including fungicides, insecticides and herbicides has occurred at the site as part of routine agricultural practices. The Federal Insecticide, Fungicide, Rodenticide Act (FIFRA) regulates the use of pesticides. Based on our research, there have been no reportable quantity releases of pesticides or other chemicals at the site as regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or the Hawaii Environmental Response Law (HERL).

During the site reconnaissance, a 55 gallon drum of unidentified contents and an unidentified white powder/ash was found on the subject site. The unidentified white powder/ash was noted on one of the rock/soil piles. BESD recommends that this material be removed from the site. No soil staining or evidence of a release was noted around the drum. BESD recommends that the drum(s) and any other debris (rock/soil piles) be removed prior to the purchase of the property. Additionally,

PhOWER INVESTMENTS LIMITED
Environmental Site Assessment
November 29, 1993

*Final - Privileged and
Confidential*

depending on the contents and condition of the drum(s), the soil in that area may be required to be sampled.

2.0 PURPOSE AND SCOPE

The purpose of this investigation was to evaluate, on the basis of readily available information, the potential presence of hazardous substances at the site as a result of current and/or past land use practices. Additionally, the potential for soil and/or groundwater contamination was assessed based on these practices. The area within one-half mile of the subject site was investigated in order to determine if sites within that range could adversely impact the site through the presence and/or release of hazardous substances into the environment.

Our scope of services included the following five elements:

1. REVIEW OF SITE HISTORY

- Reviewed and interpreted archival topographic maps, fire insurance maps, and aerial photographs for the years 1884, 1885, 1914, 1923, 1956, 1965, 1976 and 1983. The area within a one-half mile radius of the subject property was examined in order to obtain information regarding historical site land use that could have involved the manufacture, generation, use, storage and/or disposal of hazardous substances;
- Gathered information regarding past and/or current site development and/or land use provided by the Real Property Tax Office/ County of Maui Tax Division for Tax Map Keys (2) 4- 5- 7, 9, 10, 11, 12, 15, 21, 23, 24, 26 and 29 for the years 1943 through 1988.

2. REVIEW OF REGULATORY RECORDS

- Reviewed the following State of Hawaii Department of Health (DOH) and U.S. Environmental Protection Agency (EPA) lists of known or potential hazardous waste sites or landfills, and sites currently under investigation for environmental violations:

U.S. EPA Comprehensive Environmental Response, Compensation, and Liability Act Information Systems (CERCLIS) data base for the State of Hawaii, 1992;

U.S. EPA Resource Conservation and Recovery Act Information Systems (RCRIS) data base for the State of Hawaii, 1992;

U.S. EPA Resource Conservation and Recovery Act (RCRA) data base for the State of Hawaii, 1992;

State of Hawaii DOH Underground Storage Tank (UST) Program list of leaking USTs (LUST) and registered USTs, 1991;

and

DOH Hazard Evaluation and Emergency Response (HEER) list of hazardous materials release reports, 1991.

- Conducted written inquiries were to the following offices: US Environmental Protection Agency (EPA), Maui Fire Department (MFD), Maui Electric Company (MECO) and DOH Environmental Management Division. Replies from the EPA, MECO, MFD and DOH have been received.

3. SITE RECONNAISSANCE

- Performed a reconnaissance survey of the subject property and the area within a one-half mile radius of the site to make visual observations of existing site conditions, improvements, and/or operations, types of land use, nature of businesses within the search area. An asbestos survey was not performed as part of the scope of this investigation.

- Conducted interviews with the following persons:

Mr. Jim Bailey, Operations Manager, Pioneer Mill Company, Ltd.;

Mr. Don Gerbig, Director of Environmental Affairs and Safety, AMFAC Corporation;

Mr. John Jac Kean, Client; and

Mr. Steve Kramar, Sales Manager and Controller, The Sugar Cane Train.

4. REVIEW OF SITE GEOLOGY AND HYDROGEOLOGY

- Reviewed pertinent, available documents and maps regarding local geologic and hydrogeologic conditions:

Department of Land and Natural Resources (DLNR) water well records for the Lahaina, Maui, Hawaii area (1991);

MacDonald et al., 1983, Volcanoes in the Sea;

Soil Survey for the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, States Department of Agriculture (USDA) Soil Conservation Service (SCS) 1972;

State of Hawaii, DLNR, Hawaii Water Plan, Maui County Water Use and Development Plan, 1992;

State of Hawaii, DLNR, Hawaii Water Plan, Water Quality Plan, 1992;

State of Hawaii, DLNR, Hawaii Water Plan, Water Resources Protection Plan Volumes I and II, 1992;

and

Stearns, H.T. and MacDonald, G.A. 1966, Geology of Hawaii.

5. DATA EVALUATION AND REPORT PREPARATION

- Prepared this summary report describing the research performed and presenting BESD's findings, professional opinions, and recommendations for further investigations.

3.0 SITE DESCRIPTION

3.1 SITE LOCATION

The site is located in Lahaina, Maui, Hawaii (Figure 1, Site Location Map). The site consists of approximately 34.9 acres of relatively flat land with no existing structures. Topographic map coverage of the site vicinity is provided by the United States Geological Survey (USGS), Lahaina, Maui, Hawaii 7.5 minute quadrangle, 1983.

The elevation of the subject property is approximately 40 feet above mean sea level with a local topographic gradient of approximately 120 vertical feet per 2,000 feet in a northeasterly direction and approximately 30 vertical feet per 2,000 feet in a southwesterly direction as measured from the topographic map (Figure 1). The nearest large surface water is the Pacific Ocean, which is approximately 2,200 feet to the southwest.

3.2 GEOLOGY AND HYDROGEOLOGY

Regional Geology

The island of Maui is the second largest of the Hawaiian islands. Maui consists of two shield volcanoes with a connecting isthmus. The volcanic rocks of the West Maui Mountains (West Maui Volcano) are divided into three series. The oldest is the Wailuku Volcanic Series, followed by the Honolua and Lahaina Volcanic Series. The Wailuku series built the major shield volcano comprised of basaltic lava flows and associated pyroclastic and intrusive rocks. The Honolua series covered the Wailuku series with a thin coating of andesitic, trachytic and pyroclastic deposits. The Lahaina series then covered the western slopes of the West Maui Volcano.

The Haleakala Volcano last erupted in about 1790 and is presently dormant. The shield of the volcano is composed of aa and pahoehoe lava flows of tholeiite, tholeiitic olivine basalt and oceanite known as the Honomanu Volcanic Series. The Kula Volcanic Series overlays the Honomanu series and is comprised of hawaiiite,

alkalic olivine basalt and ankaramite. Lava flows from the Haleakala volcano formed the Maui isthmus made up of permeable basalt and erosional deposits.

Site Geology

The subject site is located on the western side the West Maui Mountains. The geologic conditions at the site are characterized as alluvium from the Kahoma Valley and the West Maui Volcano. Soil conditions at the site are classified by the SCS (1972) as Wahikuli very stony silty clay (WdB), with three to seven percent slopes. The soil formed in material weathered from basic igneous rock and are well-drained. These soils are used primarily for sugarcane with a small amount of the acreage used for homesites.

Surrounding soils are classified by the SCS (1972) as Wahikuli stony silty clay (WcC) within one half mile to the north and east of the site, Ewa silty clay loam (EaA) within one quarter mile south and west of the site and rock land (rRK) to the east along the Kahoma Stream. WcC consists of seven to fifteen percent slopes with stones at the surface and runoff slow to medium with the erosion hazard slight to moderate. EaA consists of zero to three percent slopes with the runoff very slow and the erosion hazard slight. rRK is made up of areas where twenty-five to ninety percent of the surface is covered by exposed basalt and andesite rock.

Regional Hydrogeology

The primary drinking water in the Hawaiian Islands is developed from basal groundwater. All of the island below sea level, except within rift zones of the volcanoes, is saturated with ocean salt water. Fresh water moving downward encounters the saltwater in the rocks, and because it is less dense than salt water, floats upon it; therefore, fresh basal water floating on salt water presses downward on the salt water forming a basal lens or a Ghyben-Herzberg lens. A zone of transition between the fresh groundwater and the ocean salt water occurs due to the constant movement of the interface.

Recharge to the basal groundwater bodies is greatest in the interior mountainous areas. Groundwater levels are high in these areas which causes groundwater to flow, generally, from the interior to the shoreline. Frictional resistance to groundwater flow cause it to pile up within the island until it attains sufficient hydraulic head to overcome friction. For this reason basal groundwater acquires a slope toward the shoreline.

alkalic olivine basalt and ankaramite. Lava flows from the Haleakala volcano formed the Maui isthmus made up of permeable basalt and erosional deposits.

Site Geology

The subject site is located on the western side the West Maui Mountains. The geologic conditions at the site are characterized as alluvium from the Kahoma Valley and the West Maui Volcano. Soil conditions at the site are classified by the SCS (1972) as Wahikuli very stony silty clay (WdB), with three to seven percent slopes. The soil formed in material weathered from basic igneous rock and are well-drained. These soils are used primarily for sugarcane with a small amount of the acreage used for homesites.

Surrounding soils are classified by the SCS (1972) as Wahikuli stony silty clay (WcC) within one half mile to the north and east of the site, Ewa silty clay loam (EaA) within one quarter mile south and west of the site and rock land (rRK) to the east along the Kahoma Stream. WcC consists of seven to fifteen percent slopes with stones at the surface and runoff slow to medium with the erosion hazard slight to moderate. EaA consists of zero to three percent slopes with the runoff very slow and the erosion hazard slight. rRK is made up of areas where twenty-five to ninety percent of the surface is covered by exposed basalt and andesite rock.

Regional Hydrogeology

The primary drinking water in the Hawaiian Islands is developed from basal groundwater. All of the island below sea level, except within rift zones of the volcanoes, is saturated with ocean salt water. Fresh water moving downward encounters the saltwater in the rocks, and because it is less dense than salt water, floats upon it; therefore, fresh basal water floating on salt water presses downward on the salt water forming a basal lens or a Ghyben-Herzberg lens. A zone of transition between the fresh groundwater and the ocean salt water occurs due to the constant movement of the interface.

Recharge to the basal groundwater bodies is greatest in the interior mountainous areas. Groundwater levels are high in these areas which causes groundwater to flow, generally, from the interior to the shoreline. Frictional resistance to groundwater flow cause it to pile up within the island until it attains sufficient hydraulic head to overcome friction. For this reason basal groundwater acquires a slope toward the shoreline.

Not all water percolating downward through the zone of aeration goes directly into the basal water table. Perched groundwater occurs when descending water encounters an impermeable layer of soil or rock. A perching member may be a bed of dense lava; however, more commonly it is either alluvium or volcanic ash. A type of high level or perched groundwater is dike-confined water bodies, generally identified by natural spring discharges.

Site Hydrogeology

The subject site is located on the Launiupoko system of the Lahaina aquifer sector. In the site area, fresh water is in contact with the sea water and the water table is the upper surface of the saturated aquifer layer. The site is on the underground injection control (UIC) line. The groundwater flow direction is expected to be southwest, towards the Pacific Ocean.

The Launiupoko aquifer system consists of fresh basal groundwater in Wailuku basalt that extends two miles inland from the coast, beyond this is high level dike water also in the Wailuku basalt. The basal groundwaters occur in these flank lavas which are covered at the coast by a narrow shelf of sediments.

There are over ten wells drilled within one square mile of the subject site in Lahaina according to the DLNR Groundwater Index, 1991. These are irrigation, industrial, municipal and observation wells. No water wells exist at the site. No drinking water wells are shown to be located within one square mile of the site. A 39 feet deep industrial well is located one-quarter mile north of the subject site and slightly down gradient.

3.3 CURRENT SITE LAYOUT

The subject site occupies an estimated 34.9 acres of land bordered on the south by Kahoma Stream in Lahaina, Maui, Hawaii (Figure 2, Site Plan Map). The site, known as Tax Map Key (2) 4- 5- 10: 5, is semi-rectangular in shape and primarily contains sugar cane. The surrounding properties consist of sugar cane land to the north and east, a graded vacant lot to the west and a sugar mill and residential area to the south.

3.4 PAST LAND USE

Information regarding past site land use was obtained by a review of historical aerial photographs and archival topographic maps viewed at the University of Hawaii Hamilton Library Map Collection. Fire insurance maps were viewed in the microfilm collection of the Hamilton Library. BESD compiled the following site history:

1884: Hawaiian Government Survey, Town of Lahaina, Maui 1: 24,000

This map shows the subject site area without structures present. One structure is shown on the southwest corner of the site, just north of the Kahoma Stream's present location (Figure 3, Site Layout). Four structures are shown on the east adjacent property near the site's border. A roadway is shown on the west side of the site. No details are given regarding what the structures were used for.

1885: Hawaiian Government Survey, Maui Hawaiian Islands, W.D. Alexander Surveyor, 1: 60,000

This map shows the site and surrounding areas encompassed by a border that represents the location of sugar cane plantations. Further detail shows the subject site as public land. Structures are not shown on this map. Groundwater flow for the site area is shown to be southwest.

1914: Sanborn Fire Insurance Maps

This map does not extend to the subject site. This map shows the Pioneer Mill at its present day location. The areas that are 300 feet west and south of the subject site are labeled "cane". The subject site is not shown on the map.

1923: USGS Hawaii, Island and County of Maui Lahaina District Mala Quadrangle, polyconic projection, 1: 31,680

This map does not show structures being present on the subject site. The site area is flat to gently sloping. An unspecified pipeline is shown approximately 1,700 feet north of the site and north of the north adjacent property. Structures are shown south of the Kahoma Stream within the site area. No details are given regarding these structures.

1956: USGS Hawaii, Island and County of Maui, Lahaina Quadrangle, 1: 24,000

No structures are shown on the site or the adjacent properties to the north, west or east. The site is flat to gently sloping. Structures are shown south of Kahoma Stream. Cisterns are shown 1,400 feet to the north of the site and 3,500 feet east of the site. A shaft pump is located along Kahoma Stream approximately one mile upstream from the site. A crater reservoir is located one mile northeast of the site.

1965: ASCS Aerial Photograph, no scale given

No structures are shown on the site or the adjacent properties to the north, west or east. Structures are shown south of Kahoma Stream at the present day location of Pioneer Mill. A reservoir is shown northeast of the site.

1976: USGS Aerial Photograph, no scale given

No structures are shown on the site or the adjacent properties to the north, west or east. Structures are shown south of Kahoma Stream at the present day location of Pioneer Mill and the south residential area. A reservoir is shown northeast of the site. The site appears to be flat to gently sloping.

1983 : USGS Lahaina Quadrangle, 1: 24,000

No structures are shown on the subject site property or adjacent properties except for the area south of Kahoma Stream. The site is essentially flat with a slight change in elevation northeast to southwest. A gauging station is located 1,200 feet to the west of the subject site on Kahoma Stream. The sugar mill is approximately one-quarter mile south of the site. A water tower and two cisterns are located 3,500 feet east of the site.

1988: Map of Parcel 5-B, Kahoma Stream Flood Control Project, at Moalii, Lahaina, Maui, Hawaii, 1: 1,200

This map shows the current site boundaries and Kahoma Stream location. The site is described as parcel 5-B. The stream is described as right-of-way parcel 7. Parcel 5-A is the area south of the site where the Kahoma Stream was previously located. An electrical easement exists on the west border of the site. The west adjacent property is described as parcel 1-A. No structures are shown.

1993: Aerial Photograph, no scale given

This aerial photograph shows no structures on the subject site. Two large rock/soil piles are visible on the site. One pile is located on the west central portion of the site. The other pile straddles the northeast border of the site. The site appears to be in sugar cane cultivation. No structures are shown on the site or the adjacent properties to the north, west or east. Truck paths run east-west and north-south across the site and around the rock/soil piles. Kahoma Stream is visible as a cement culvert in its current position which is immediately bordering the site on the south. Kahoma Stream's previous location is visible as a graded area south of the stream. A housing development is located 1,000 feet to the northwest of the site and immediately north of the west adjacent property. Sugar cane railway tracks were not visible on the aerial photo. Pioneer Mill is visible 2,000 feet south of the site.

1943-1988: County of Maui Tax Division Land Appraisals for TMK (2) 4-5-10 including plats: 9, 11, 21 and 23 of the surrounding properties.

Land Appraisals for TMK 4-5-10

1943 to 1967- Pioneer Mill Company owned the subject site. During this period the parcel increased from 53.51 acres to 62.98 acres and then reduced to 37.742 acres.

1988- Three temporary buildings were constructed along Kahoma Stream, south of its present day location.

Land Appraisals for TMK 4-5-9

1961 to 1968- Pioneer Mill Co. leased parcel one, which is west of Pioneer Mill, to Texaco. A service station and canopy were constructed.

1972 to 1983- Pioneer Mill owned 19.593 acres of parcel seven, Pioneer Mill's present location, and AMFAC owned 0.027 acres. During this period up to 27 buildings existed on this parcel.

1982-1986- The Hawaii Omori Corporation owned parcel two, which is part of the west adjacent property. During this period a building was moved and an office and deck were built. In 1986, a luxury sports car rental business leased the trailer and deck.

Land Appraisals for TMK 4-5-11

Hawaii Omori Corporation leased part of parcel one to the railroad and owned parcels three and four. These parcels are part of the site's west adjacent property.

Land Appraisals for TMK 4-5-21

1966- A pump house was constructed on parcel three, part of the site's east adjacent property.

1974- Pioneer Mill Company leased 887 acres of the 1134.7 acre parcel three from the State of Hawaii for twenty years to be dedicated for sugar cane use. This is the site's east adjacent property.

1974- The State of Hawaii dedicated 305.92 acres of the 669,550 acre parcel four for twenty years to the Pioneer Mill Company for sugar cane use. This property is located north of the subject site.

4.0 PRESENT SITE CONDITIONS

4.1 SITE RECONNAISSANCE

On Friday, June 9, 1993, BESD personnel, performed a site reconnaissance of the property to note visual signs of contamination, interview individuals possessing knowledge about current and past practices at the subject site and surrounding area, and to conduct a brief assessment of the surrounding area.

After visiting the subject site, BESD personnel walked and drove through the surrounding area. Visual observations were made of the existing conditions, type of land use and nature of businesses, if any, in the area. Land use in the area is residential, commercial, industrial, agricultural, and municipal.

4.1.1 Pioneer Mill Property (Subject Site)

Sugar cane covers a majority of the semi-rectangular site. The sugar cane is approximately one year old and has one more year of growth before it will be cut (personal communication with Mr. Jim Bailey, Pioneer Mill Company, Ltd.). Two

large rock/soil piles are located on the site. No buildings are located on the site. No unseasonably dead or stressed vegetation was noted.

Irrigation piping and tubing are located throughout the site. The main irrigation lines run underground. Currently the site is being irrigated by the drip irrigation method. Irrigation pipes were noted along the truck paths (Figure 3, Site Layout Map). These truck paths run throughout the site and around the rock/soil piles.

A truck path is located on the south side of the subject site along Kahoma Stream. No debris or stressed vegetation was noted along the path. Four utility poles are located along the site on Kahoma Road. No pole mounted transformers were noted by BESD personnel on these poles.

The north side of the property is covered by sugar cane and extends to the north adjacent property. A rock/soil pile is located along the northeast side of the site. The fragments of cement, aluminum scraps and an aerosol can of unknown contents were located on the top of the pile. Vegetation on and at the base of the soil pile consisted of grass and Haole Koa trees.

Sugar cane extends over the eastern portion of the site and onto the east adjacent property.

A soil pile is located in the center of the site. The pile consists of large rocks, soil and various types of debris. Large truck and agricultural machinery parts were located on the top of the soil pile. Metal scraps, cane, irrigation tubing, polyvinyl chloride (PVC) piping, instrument gauges and a white powder/ash substance were also noted on the soil pile. The large basalt rocks located on the pile are from the cane fields and have been placed on the piles throughout the years of sugar cane cultivation (personal communication with Mr. Bailey). Haole Koa trees are located around the base of the pile. Additionally, Mr. Bailey stated that, cement irrigation flumes and footer type forms were discarded onto the south side of the pile.

Burnt areas and ash were noted on and around the rock/soil pile. Mr. Bailey stated that the burnt/ash areas are from fire that had been introduced to the piles to control vegetation growth. (The rock/soil piles are burnt along with the cane fields.) An unmarked, rusted 55 gallon drum was located at the base of the pile on the south central side. It could not be determined if the drum was empty or even if there was more than one drum because boulders and vegetation cover the drum area.

POWER INVESTMENTS LIMITED
Environmental Site Assessment
November 29, 1993

*Final - Privileged and
Confidential*

4.1.2 Adjacent Properties

- **Northern Adjacent Property**

The north adjacent property is and has been leased by the Pioneer Mill Company from the State of Hawaii since the late 1800's (personal communication with Mr. Don Gerbig, AMFAC). Pioneer Mill is currently growing sugar cane on the property. No structures are located on the property. BESD personnel did not note any unseasonably dead or stressed vegetation on that site. No transformers were noted on the north adjacent property. No evidence of dumping or chemically impacted soil was noted on the site.

- **Eastern Adjacent Property**

The east adjacent property is and has been leased by the Pioneer Mill Company from the State of Hawaii since the late 1800's (personal communication with Mr. Don Gerbig). Sugar cane is currently growing on the property. No structures are located on the property. BESD personnel did not note any unseasonably dead or stressed vegetation on the east adjacent property. No transformers were noted on the north adjacent property. No evidence of dumping or chemically impacted soil was noted on the site.

- **Southern Adjacent Properties**

South of the subject site is the Kahoma Stream. Kahoma Stream separates the subject site from Pioneer Mill Company's mill and a residential area. The Kahoma stream is presently a cement culvert with a catchment basin upstream along the site's east adjacent property. The stream was relocated in 1988 as part of a flood control project undertaken by the County of Maui. The stream banks are separated from adjacent properties by a chain link fence. South of the stream's present location is the remnant area of the former meandering stream. This area has been filled with soil and graded.

South of the stream and slightly down gradient of the site, is the Pioneer Mill Company's sugar mill/process area. BESD did not visit the sugar mill/process area during the site reconnaissance due to the high level of activity occurring at the time. Southeast of the subject site is a residential area made up of single family dwellings.

- **Western Adjacent Property**

The western adjacent property is currently owned by the Hawaii Omori Corporation with a portion being leased to Railroads of Hawaii. At the time of the site visit the property was being graded and soil was being introduced. The property is presently being developed for industrial use (personal communication with Mr. Kean, client). Train tracks run the length of the property along Kahoma Road. The railway is a tourist attraction and has been used for this purpose for over twenty years (personal communication with Mr. Kramar, The Sugar Cane Train).

4.2 PERSONNEL INTERVIEWS

BESD conducted interviews with persons who possess relevant information regarding site history and/or land use activities. Presented below is a listing of the persons interviewed and a summary of the significant findings from the interview process.

4.2.1 Mr. Jim Bailey, Operations Manager, Pioneer Mill Company, Ltd.

BESD personnel spoke with Mr. Jim Bailey on Friday, July 9, 1993. Mr. Bailey stated that he has been with the Pioneer Mill Company for seven months.

Mr. Bailey told BESD personnel that the sugar cane on the subject site is one year old and that it had one more year to mature. He told BESD that the cane field has an underground irrigation system. He said that the broken cement forms around the base of the rock/soil piles located on the subject site are from irrigation flumes and heads.

Mr. Bailey said that the rocks observed on the soil piles were from the cane fields. He did not know how long the equipment noted on the piles had been there. He also stated that the rock/soil piles are burned to control vegetation growth when the fields are burnt. Mr. Bailey told BESD to contact AMFAC's Land Management Office for further information on the site.

4.2.2 Mr. Don Gerbig, Director of Environmental Affairs and Safety , AMFAC Corporation

BESD personnel contacted Mr. Gerbig by telephone on Tuesday, July 20, 1993. Mr. Gerbig has been with Pioneer Mill/AMFAC for seven years. BESD personnel asked Mr. Gerbig how long Pioneer Mill Company, Limited has owned the subject site and how long sugar cane cultivation has been taking place on the site. He stated that Pioneer Mill has owned the site and cultivated sugar cane on the property since the late 1800's. He stated that Pioneer Mill has "always" leased the land north of the site.

Mr. Gerbig said that there have not been any structures on the site or on the north and east adjacent properties controlled by Pioneer Mill. He stated that there is a "K-Pump House", east of the site. Mr. Gerbig told BESD that the temporary structures noted on parcel 5, south of the subject site and north of Kahoma Stream, were from the Kahoma Stream relocation project and that they were not owned by Pioneer Mill.

Mr. Gerbig stated that the irrigation system uses primarily stream and or well water. Mr. Gerbig said that there are no wells or cesspools on the subject site. Mr. Gerbig stated that there have been no drains or sumps at the site.

BESD personnel asked Mr. Gerbig if there are any USTs or pipelines on the site. He stated that there are no USTs on the site or the cane lands controlled by Pioneer Mill. Mr. Gerbig said that there are no pipelines on the site except for the irrigation lines.

Mr. Gerbig stated that Pioneer Mill uses the standard industry registered pesticides, primarily herbicides, and that they are applied at label rates. He also stated that they use standard fertilizers.

Mr. Gerbig said that there have been no spills or storage of chemicals on the property. Mr. Gerbig stated that there has been no contamination from the surrounding properties or the mill and that the wash water from the mill is pumped south. He also stated that there has been no contamination from the north and east cane lands. Mr. Gerbig stated that no soils or wastes have been removed from the site. Mr. Gerbig stated that he was unaware of the drums at the site.

BESD personnel asked Mr. Gerbig if there were any additional comments about the site. Mr. Gerbig told BESD that soil was added to the old Kahoma Stream location when the relocation project took place. He also added that the rocks on the piles are from the cane fields. He said that large rocks brought to the soil surface

during plowing would be moved to the existing rock/soil piles. He stated that there is equipment on the soil piles.

4.2.3 Mr. John Jac Kean, Client

BESD personnel interviewed Mr. John Jac Kean during the site visit on Friday, July 9, 1993.

Mr. Kean told BESD personnel that the old Kahōma Stream had been filled and graded and that the stream is owned by the County of Maui. He told BESD personnel that the sugar cane fields surrounding the site are on state lease property and that the subject site is owned by Pioneer Mill Company, Limited.

4.2.4 Mr. Steve Kramar, Sales Manager and Controller, The Sugar Cane Train

BESD personnel contacted Mr. Steve Kramar by telephone on Wednesday, July 14, 1993. Mr. Kramar stated that the tourist railroad and station had been at its present location and had been operating for the past twenty years. He said that before the present owners another company had owned the railroad. He stated that the property is leased from the AMFAC Corporation.

Mr. Kramar said that their water is supplied by the AMFAC Corporation's water system (Kaanapali Water Supply). Mr. Kramar stated that there are no drains or sumps at the facility. Mr. Kramar stated that there are no underground storage tanks on the property. Mr. Kramar stated that there were transformers but he did not know the number of transformers or locations.

Mr. Kramar said that Roundup herbicide is used along the tracks to control weeds. He said that he does not know about the use of fertilizers at the site.

4.3 AGENCY LISTS REVIEW

BESD conducted a review of readily available, applicable regulatory agency lists of known or potential hazardous waste sites or landfills, and sites currently under investigation by the US EPA or State of Hawaii DOH. The following lists were reviewed to identify sites located within one-half mile of the site which may have the potential to adversely impact environmental conditions at the subject property:

• **U.S. EPA CERCLIS List 1992 for the State of Hawaii:**

There are no sites listed within a one half mile radius of the subject site. The nature of the investigations pertains to the presence of pesticides in ground water. Although there has been evidence of pesticide related chemicals, atrazine, in the groundwater for the area, no CERCLIS reports have been made as of 1992.

• **U.S. EPA RCRA list 1992 for the State of Hawaii:**

There are no listed hazardous waste generators or transporters at the site. Pioneer Mill Co. Ltd., and Luxury Sports Car Rental, which was previously located on the west adjacent property, are listed as small quantity generators.

• **U.S. EPA RCRIS list 1992 for the State of Hawaii sites within a one half mile radius of the subject site:**

No sites within a half mile radius of the subject site are listed in the RCRIS database.

• **DOH LUST list 1991 for the State of Hawaii sites within a one mile radius of the subject site:**

Circle K Hawaii, Inc. #8922
821 Dickenson Street
Lahaina, Maui, Hawaii

Leak ID: 900005
Facility ID: 9-501862

No leaking USTs are listed at the site or surrounding properties.

• **DOH UST State of Hawaii list 1991 for sites within a mile radius of the subject site:**

Facility ID: 9-500772, 9-500777
Location: 380 Lahainaluna Road
Owner: Pioneer Mill Co., Ltd.

PhOWER INVESTMENTS LIMITED
Environmental Site Assessment
November 29, 1993

*Final - Privileged and
Confidential*

Tank(s): (1) 1,000 gallon steel gasoline, 34 yr old
(1) 1,000 gallon steel kerosine, 33 yr old
(1) 1,000 gallon steel solvent, 32 yr old
(2) 25,620 gallon steel #6 fuel, 24 yr old

Facility ID: 9-500421
Location: 263 Lahainaluna Road
Owner: Texaco Station
Tank(s): (3) 8,000 gallon lined fiberglass/plastic gasoline, 8 yr old
(1) 550 gallon lined fiberglass/plastic used oil, 8 yr old

Facility ID: 9-501009
Location: Papalaua/Wainee
Owner: Shell Service Station
Tank(s): (2) 10,000 gallon lined fiberglass/plastic gasoline, 5 yr old
(1) 10,000 gallon lined fiberglass/plastic gasoline, 7 yr old
(2) 550 gallon steel used oil, 23 yr old

Facility ID: 9-500558
Location: 147 Dickenson Street
Owner: GTE-Lahaina Central Office
Tank(s): (1) 285 gallon steel diesel, 22 yr old

- **DOH HEER list of reported chemical releases for the State of Hawaii; sites within a one half mile radius of the subject site:**

There are two chemical releases listed since 1983 within a one half mile radius of the site. One release of diesel oil was at the Lahiana Harbor. The second release, hydrogen sulfide, was at the Wharf Center. Both sites are down gradient from the site. No chemical release reports were made for the subject site.

4.4 HAZARDOUS MATERIALS

Research indicates that the subject site was used for sugar cane cultivation. Routine applications of pesticides were made as part of sugar cane cultivation practices. Residues of pesticides may exist in soil at the site. No visual or olfactory

evidence of pesticide contamination was noted at the site and no reportable quantity releases of chemicals at the site were noted in the DOH or EPA databases.

BESD submitted letters to the DOH, US EPA, MECO and the MFD requesting information regarding the environmental compliance for the subject site and surrounding properties. Replies from the above listed agencies did not change the nature of our conclusions or recommendations.

4.5 ABOVEGROUND AND UNDERGROUND STORAGE TANKS

BESD examined the DOH UST Program list of registered tanks (dated 1991) which shows that there are fifteen listed UST's within a one mile radius of the site area. Five of these registered tanks are located at the Pioneer Mill Company, Ltd. on Lahainaluna Road which is located south of the site and Kahoma Stream. Four of the registered tanks are located at the Texaco station on Lahainaluna Road to the west of the Pioneer Mill Company. Five of these registered tanks are located at the Shell Service Station on the corner of Papalaua and Wainee Street one-quarter mile southwest of the site. One registered tank is located at the GTE-Lahaina Central Office over one-half mile south of the site. According to the DOH Leaking UST (LUST) list (dated 1991), there were no facilities within a half mile radius of the site area reporting leaking USTs. The GTE-Lahaina Central Office has had a leaking UST. Additional information was requested from the State of Hawaii DOH UST program regarding the registered tanks. The DOH's reply did not change the nature of our conclusions or recommendations.

4.6 ASBESTOS SURVEY

An asbestos survey was not conducted.

4.7 PCB-CONTAINING MATERIALS

No transformers were located on the site or directly bordering the site at the time of the site visit. BESD personnel contacted Mr. Art Takabayashi, Construction Superintendent, Maui Electric Company, by telephone on Wednesday, July 14, 1993 regarding possible PCB transformers in the site area. Mr. Takabayashi stated that MECO's transformers on Maui are not PCB containing transformers. He stated that

PhOWER INVESTMENTS LIMITED
Environmental Site Assessment
November 29, 1993

*Final - Privileged and
Confidential*

all of MECO's transformers are mineral oil transformers. It is unknown what the PCB status is for the transformers located at the Sugar Cane Train Railroad.

01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based upon our research, the potential for environmental impairment at the site is moderate to low. BESD's research into the site's history indicates that the subject site has been for sugar cane cultivation from at least the late 1800's through the present. The land use to the north and east has been sugar cane cultivation since at least the late 1800's until the present. Land use to the south and west was used for sugar cane until it became residential, sugar cane processing and commercial in approximately 1914.

The use of pesticides, including fungicides, insecticides and herbicides has occurred at the site as part of routine agricultural practices. The Federal Insecticide, Fungicide, Rodenticide Act (FIFRA) regulates the use of pesticides. Based on our research, there have been no reportable quantity releases of pesticides or other chemicals at the site as regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or the Hawaii Environmental Response Law (HERL). Pesticide impacted soil which results from routine applications of pesticides are not currently regulated. If the soils are considered waste the soil would not be treated as a hazardous waste nor would the soil be required to be tested for characteristics of hazardous waste provided that the pesticides were applied properly.

During the site reconnaissance, a 55 gallon drum of unidentified contents and an unidentified white powder/ash was found on the subject site. The unidentified white powder/ash was noted on one of the rock/soil piles. BESD recommends that this material be removed from the site. No soil staining or evidence of a release was noted around the drum. BESD recommends that the drum(s) and any other debris (rock/soil piles) be removed prior to the purchase of the property. Additionally, depending on the contents and condition of the drum(s), the soil in that area may be required to be sampled.

6.0 LIMITATIONS

This report is a preliminary environmental site assessment. We have based our conclusions and recommendations on research and a visual site inspection. Even with extensive sampling and testing, we cannot guaranty or warrant that the

PhOWER INVESTMENTS LIMITED
Environmental Site Assessment
November 29, 1993

*Final - Privileged and
Confidential*

site is free of contamination. We do warrant that our services are performed with the usual competence and thoroughness of the consulting profession, in accordance with the standard operating procedures of this time. Brewer Environmental Services does not provide any other guarantee or warranty.

Figures 1 through 3, a photograph and references are attached and complete the report.

7.0 REFERENCES

- Aerial Photographs. University of Hawaii, Hamilton Library Map Collection.
Photos dated 1965, 1976 and 1993.
- Alexander, W.D., Surveyor, Hawaiian Government Survey, Maui Hawaiian Islands,
1885 updated 1903, 1: 60,000. University of Hawaii, Hamilton Library Map
Collection.
- Alexander, W.D., Surveyor, Hawaiian Government Survey, Town of Lahaina Maui,
1884 updated 1903, 1: 2,400. University of Hawaii, Hamilton Library Map
Collection.
- Bailey, Mr. Jim, Operations Manager, Pioneer Mill Company, Ltd., Personal
Communication, July 1993.
- Brewer Environmental Services Division Job #33-27, Underground Storage Tank
Site Characterization Report, GTE-Hawaiian Tel's Lahaina Central Office,
Lahiana, Maui, Hawaii, April 30, 1993.
- County of Maui Fire Department, response dated July 29, 1993.
- Gerbig, Mr. Don, Director of Environmental Affairs and Safety, AMFAC, Personal
Communication, July 1993.
- Kean, Mr. John Jac, Client, Personal Communication, July 1993.
- Kramar, Mr. Steve, Sales Manager and Controller, The Sugar Cane Train, Personal
Communication, July 1993.
- MacDonald, G. et al., 1983, Volcanoes in the Sea, University of Hawaii Press,
Honolulu, Hawaii.
- Real Property Tax Office/ County of Maui Tax Division for Tax Map Keys (2) 4- 5- 7,
9, 10, 11, 12, 15, 21, 23, 24, 26 and 29 for the years 1943 through 1988.
- Saiki, Albert S., Kahoma Stream Flood Control Project, Map of Parcel 5-B, 1993.

PhOWER INVESTMENTS LIMITED
Environmental Site Assessment
November 29, 1993

*Final - Privileged and
Confidential*

Sanborn Fire Insurance Map 1914.

Soil Conservation Survey, Soil Survey for the Islands of Kauai, Oahu, Maui,
Molokai, and Lanai, 1972, United States Department of Agriculture (USDA).

State of Hawaii Department of Health - Hazard Evaluation and Emergency
Response. List of Hazardous Materials Releases. May 22, 1991.

State of Hawaii, Department of Health, LUST Database, April 1991.

State of Hawaii, Department of Health, response dated October 4, 1993.

State of Hawaii, DLNR, Hawaii Water Plan, Maui County Water Use and
Development Plan, 1992.

State of Hawaii, DLNR, Hawaii Water Plan, Water Quality Plan, 1992.

State of Hawaii, DLNR, Hawaii Water Plan, Water Resources Protection Plan, 1992.

State of Hawaii, DLNR, Ground Water Well Index. 1991.

State of Hawaii, Department of Health, UST Database, March, 1991.

Stearns, H.T. and MacDonald, G.A. Geology of Hawaii, 1966.

Takabayashi, Mr. Art, Construction Superintendent, Maui Electric Company,
Personal Communication, July 1993.

U.S. EPA CERCLIS Database, 1992.

U.S. EPA RCRA Database, 1992.

U.S. EPA RCRIS Database, 1992.

U.S. EPA, responses dated July 27, 1993; July 30, 1993; August 12, 1993; August
18, 1993; and September 7, 1993.

PhOWER INVESTMENTS LIMITED
Environmental Site Assessment
November 29, 1993

*Final - Privileged and
Confidential*

USGS, Hawaii Island and County of Maui, Lahaina District, Mala Quadrangle, 1923,
1: 31,680. University of Hawaii, Hamilton Library Map Collection.

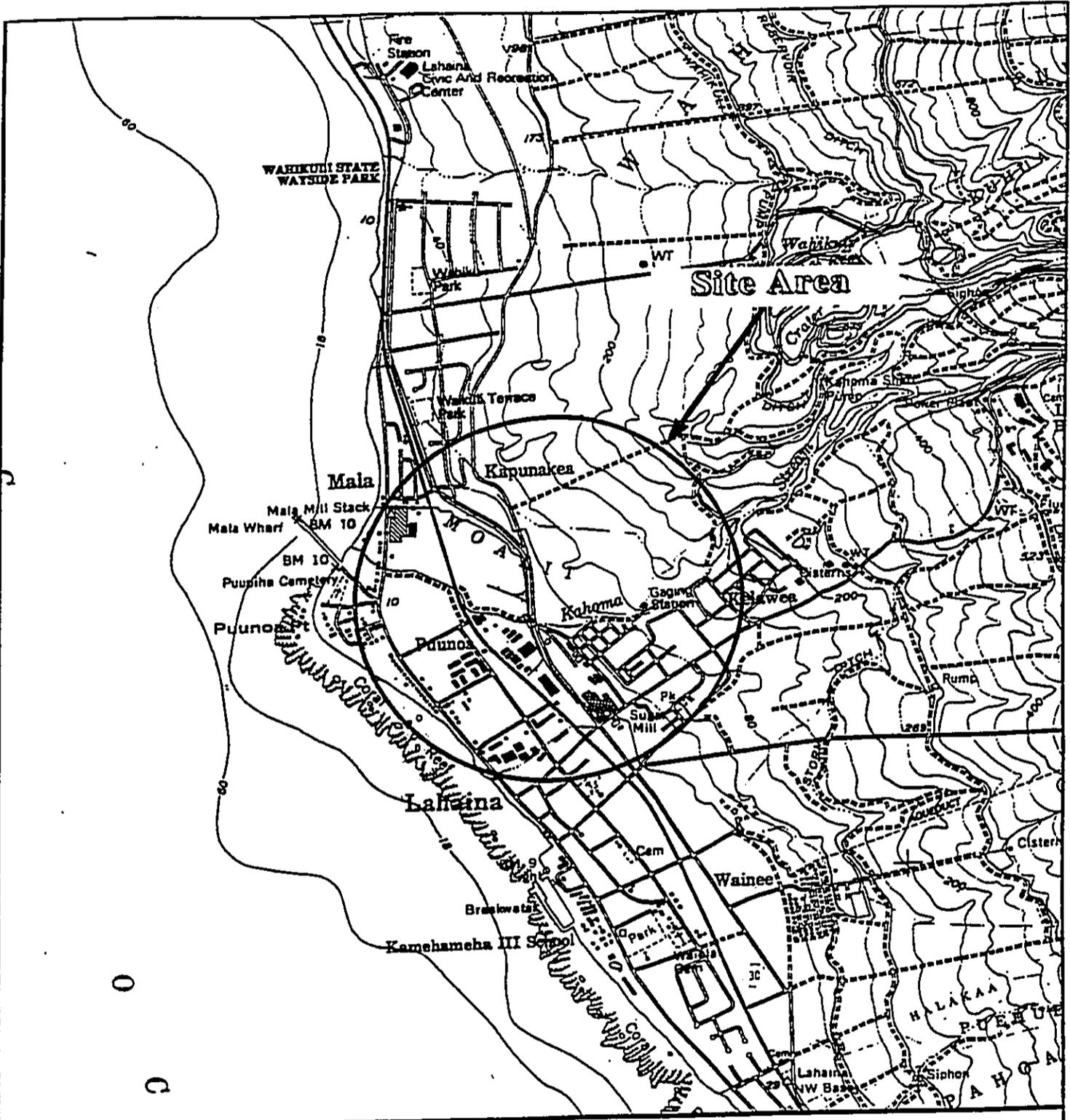
USGS, Topographic Map, Hawaii Island and County of Maui, Lahaina 7.5 minute
Quadrangle, 1956, 1: 24,000. University of Hawaii, Hamilton Library Map
Collection.

USGS, Topographic Map, Lahaina 7.5 minute Quadrangle, Island of Maui, Hawaii,
1983, 1: 24,000.

PhOWER INVESTMENTS LIMITED
Environmental Site Assessment
November 29, 1993

*Final - Privileged and
Confidential*

FIGURES



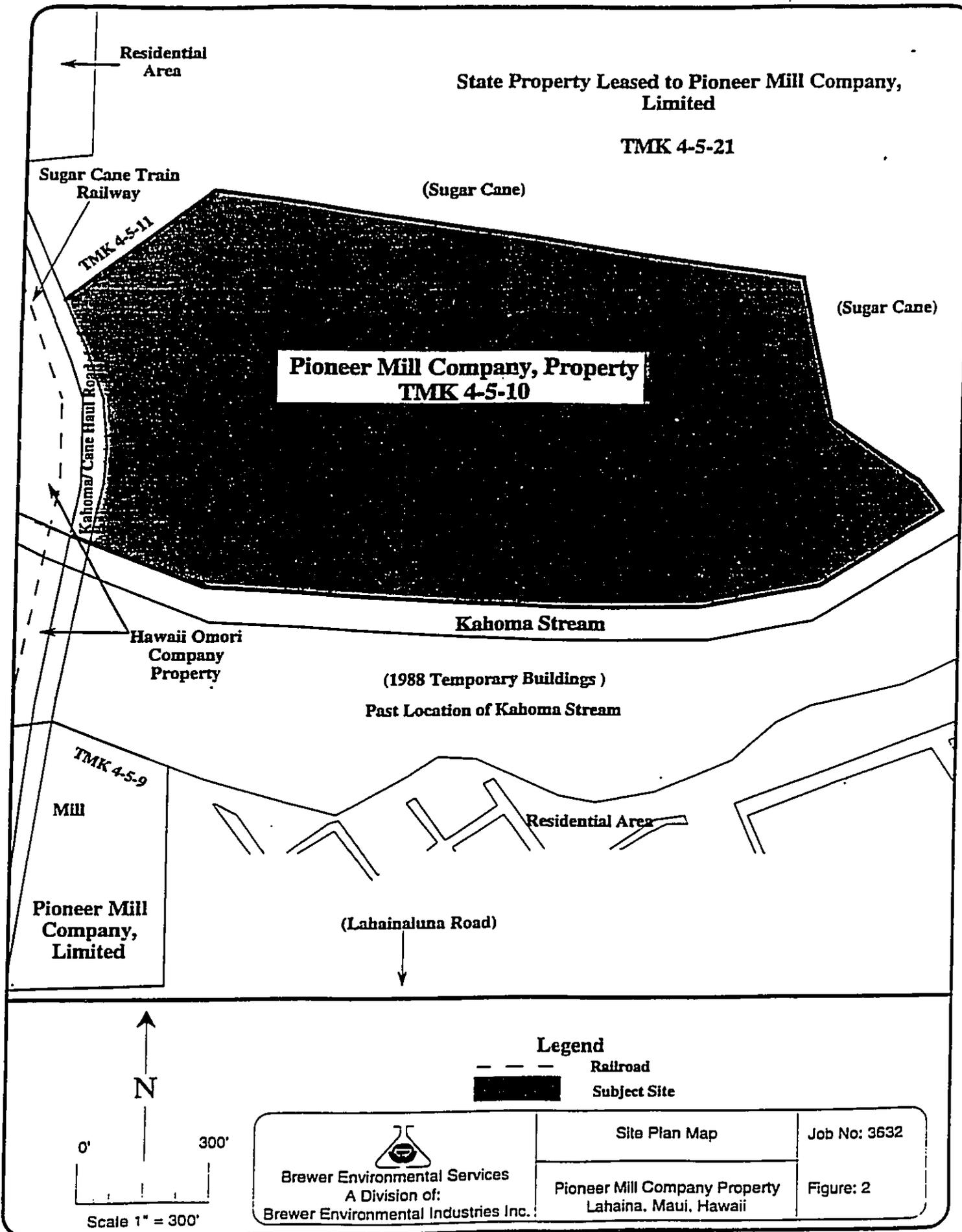
Legend

Scale 1:24,000

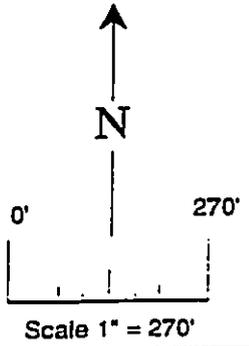
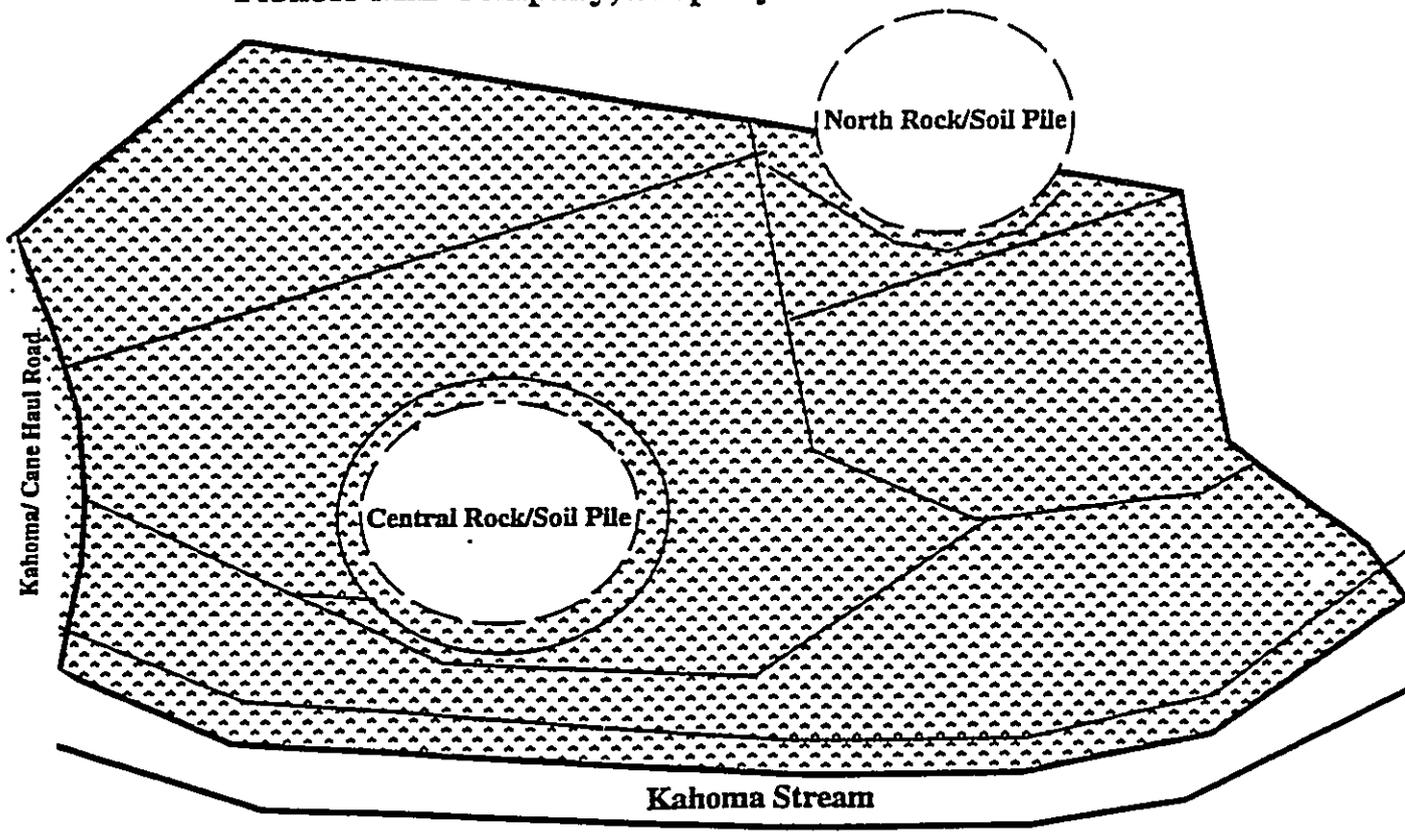
Source: USGS 7.5 Minute Quadrangle, Lahaina, Hawaii, 1983.



 Brewer Environmental Services A Division Of: Brewer Environmental Industries Inc.	Site Location Map	Job No: 3632
	Pioneer Mill Co., Ltd. Property Lahaina, Maui, Hawaii	Figure: 1



Pioneer Mill Company, Property



Legend

-  Truck Path
-  Sugar Cane

 Brewer Environmental Services A Division of: Brewer Environmental Industries Inc.	Site Layout Map	Job No: 3632
	Pioneer Mill Company Property Lahaina, Maui, Hawaii	Figure: 3

PhOWER INVESTMENTS LIMITED
Environmental Site Assessment
November 29, 1993

*Final - Privileged and
Confidential*



Photo 1- Central Soil Pile 55 Gallon Drum



Lahaina
BUSINESS PARK

Appendix D

Engineering Report

PRELIMINARY ENGINEERING REPORT

FOR

LAHAINA BUSINESS PARK

TMK: 4-5-10:Portion of Parcel 5

Lahaina, Maui, Hawaii

OWNER/DEVELOPER:

**West Maui Venture Group
Kihei, Maui, Hawaii**

Prepared By:

**Warren S. Unemori Engineering, Inc.
Civil and Structural Engineers - Land Surveyors
Wells Street Professional Center, Suite 403
2145 Wells Street
Wailuku, Maui, Hawaii 96793**

August, 1994

TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION	1
2.0 EXISTING INFRASTRUCTURE	
2.1 Water System	1 - 2
2.2 Sewer System	2
2.3 Drainage	2 - 3
2.4 Roadway	3
2.5 Electricity & Telephone	3
3.0 PROPOSED IMPROVEMENTS	
3.1 Water System	4
3.2 Sewer System	4 - 5
3.3 Drainage	5
3.4 Roadway	5 - 6
3.5 Electricity & Telephone	6
4.0 CONCLUSION	6

**Preliminary Engineering Report
for
Lahaina Business Park**

1.0 INTRODUCTION

The purpose of this report is to provide a brief description and evaluation of existing infrastructure in the vicinity of the project site. It also provides a brief summary of probable infrastructural improvements that may be needed to support the project.

2.0 EXISTING INFRASTRUCTURE

2.1 Water System.

The source of water for most of Lahaina are four wells located above Alaeloa and referred to as Napili Wells 1, 2, and 3, and Honokahau Well A. This source is being temporarily supplemented by water from Wahikuli Well No. 1 that was developed by the State for their Villages of Leiali'i project.

The Department of Water Supply is also installing a surface water treatment plant at Mahinahina above Honokowai. When completed in March 1996 the Napili well sources will be augmented by 2.5 MGD of treated surface water from Honolua Ditch.

Water from the Napili source is being transmitted to Lahaina by a series of 12 and 16 inch lines approximately 13 miles in length. Two in-line booster stations are being installed, one at Kahana and the second at the Lahaina Civic Center, to increase the capacity of this transmission system.

Storage for the area between the Lahaina Civic Center and Lahainaluna Road, where subject project is located, is being provided by the 1.5 MG storage tank in Wahikuli. The floor elevation of this tank is at 235 feet above sea level.

From the Wahikuli storage tank a series of 16 and 12 inch transmission lines convey water to Kapunakea Street. Between Kapunakea Street and the Lahaina Shopping Center on Baker Street, the transmission line reduces in size to 8 inches.

2.2 Sewer System.

There is a 27 inch gravity sewerline on Honoapiilani Highway below the proposed project site. This gravity sewer feeds into SPS No. 3 located in Wahikuli below Honoapiilani Highway. From this pump station two other pump stations and a series of force mains and gravity lines convey wastewater into the Lahaina Wastewater Reclamation Facility northeast of Kaanapali Resort. The capacity of this reclamation facility is presently being expanded from 6.7 MGD to 9.0 MGD. Completion is expected in March 1995.

2.3 Drainage.

Sugar cane is currently being grown on the project site. The area up-slope and northeast of the site is also in sugar cane cultivation. The recently completed Kahoma Stream Flood Control Project is situated to the south.

Presently runoff from the contributory drainage area above subject property sheet flows across the site in a northeasterly to southwesterly direction into Kahoma Stream. For a 50 year recurrent interval rainfall, the offsite/onsite peak flow under current conditions is estimated to be about 83.9 cfs.

2.4 Roadway.

Honoapiilani Highway located about 1000 feet to the west is the closest roadway to the project site. It is the primary arterial highway for West Maui. Between Lahainaluna Road and Kaanapali Parkway, Honoapiilani Highway is a four-lane road. Most of the major intersections are signalized. The proposed access point for the Lahaina Business Park at the intersection of the Honoapiilani Highway and the Lahaina Cannery Mall driveway is also signalized. The proposed Lahaina Bypass Highway corridor is situated approximately 1300 feet to the east and mauka of the project site.

2.5 Electricity & Telephone.

There is a 69 KVA high voltage transmission line along the westerly boundary of the property. In addition there are overhead electrical and telephone distribution lines on Honoapiilani Highway. The nearest electrical substation is on the south side of Lahainaluna Road across the street from Pioneer Mill.

3.0 PROPOSED INFRASTRUCTURAL IMPROVEMENTS

3.1 Water System

The estimated average daily demand for the proposed industrial park based on Department of Water Supply's criteria of 6000 gallons per acre per day (gpAd) is 193,000 gpd.

The size of distribution line for light industrial and commercial zoned properties is usually governed by fire flow. According to Department of Water Supply (DWS) standards, fire flow for industrial and commercial zoned areas is 2000 gallons per minute. In order to be able to deliver this flow, a 12 inch line will be required.

Based on the fire distribution map for DWS, the closest point of adequacy appears to be at Kapunakea Street. A new 12 inch line will have to be extended from Kapunakea Street along Honoapiilani Highway and up to the project site. The distribution system within the project site will also have to be 12 inches in diameter. Fire hydrants will be installed at intervals of 250 feet in accordance with the water system standards for DWS.

Since the highest ground elevation of the project site is 120 feet, storage for fire protection can be provided by the 1.5 MG storage reservoir at Wahikuli. Nevertheless storage and source assessments will be paid in conjunction with the new meter fees.

3.2 Sewer System.

A new gravity sewer line will be extended from the project site and connected to the 27 inch gravity line on Honoapiilani Highway. The applicant expects to fulfill his obligation for the Lahaina Wastewater Reclamation

Facility expansion and the wastewater transmission facilities upgrade in the form of sewer impact fee when these fees are established by the County Council.

3.3 Drainage System.

Post development runoff from the project site and surrounding cane fields for a 50 year recurrent rainfall is expected to total 128.4 cfs amounting to an increase of approximately 53.0 percent. Storm drain systems with catch basins spaced at appropriate intervals throughout the subdivision streets will be installed for the project. Offsite runoff will be intercepted by diversion ditches along the upper boundaries of the site and channeled into the new storm drain system. Storm water collected by this drainage system will be discharged into the Kahoma Stream channel at appropriate locations. To mitigate potential adverse impacts from surface runoff, the onsite runoff will be directed into subsurface detention facilities before being released into Kahoma Stream. A NPDES permit from the Department of Health and approval of the Corps of Engineers will be required to discharge runoff into Kahoma Stream.

3.4 Roadway.

The existing traffic signal at the intersection of the Lahaina Cannery Mall driveway and Honoapiilani Highway was installed by Hawaii Omori Corporation (HOC). They are the owners of Lahaina Cannery Mall.

The land between Honoapiilani Highway and the project site is also owned by HOC. The applicant has an agreement with HOC to build a road across this property to provide access to the proposed business park. This

project access road would begin opposite the existing signalized entrance to the Lahaina Cannery Mall. The right-of-way for this access road will vary between a maximum of 88 feet across HOC property to a minimum of 60 feet within the industrial park.

According to the Traffic Impact Analysis Report, prepared for the applicant by Traffic Management Consultant (TMC), traffic impacts resulting from the development of the Lahaina Business Park can be readily mitigated with the timely implementation of improvements discussed in the report.

3.5 Electricity and Telephone.

Electrical and telephone trunk lines will be extended underground from Honoapiilani Highway along the shoulders of the access road. The onsite distribution system for these facilities will also be placed underground in accordance with the Maui County Code.

4.0 CONCLUSION

Based on the foregoing it is reasonable to conclude that any project related impact can and will be readily mitigated with the installation of appropriate improvements.



Appendix E

Drainage and Soil Erosion Report



PRELIMINARY DRAINAGE AND SOIL EROSION CONTROL REPORT

FOR

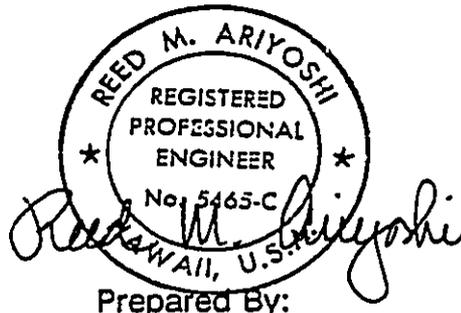
LAHAINA BUSINESS PARK

Lahaina, Maui, Hawaii

TMK: 4-5-10:Portion of Parcel 5

OWNER/DEVELOPER:

West Maui Venture Group
Kihei, Maui, Hawaii



Prepared By:

Warren S. Unemori Engineering, Inc.
Civil and Structural Engineers - Land Surveyors
Wells Street Professional Center, Suite 403
2145 Wells Street
Wailuku, Maui, Hawaii 96793

August 1994

TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION	1
II. PROPOSED PROJECT	
A. Site Location	1
B. Project Description	1 - 2
III. EXISTING CONDITIONS	
A. Topography and Soil Conditions	2
B. Drainage	2 - 3
C. Flood and Tsunami Zone	3
IV. DRAINAGE PLAN	
A. General	3 - 4
B. Hydrologic Calculations	4
C. Conclusion	5
V. SOIL EROSION CONTROL PLAN	
A. Grading Plan	5 - 6
B. Soil Erosion Control Plan	6
C. Conclusion	7
VI. REFERENCES	8

EXHIBITS

1	Location Map
2	Soil Survey Map
3	Flood Insurance Rate Map
4	Offsite Drainage Area Map

APPENDICES

A	Hydrologic Calculations
B	Universal Soil Loss Equation Calculations

Preliminary Drainage and Soil Erosion Control Report
for
Lahaina Business Park

I. INTRODUCTION

This report has been prepared to evaluate both the existing site drainage conditions and the proposed drainage plan for the subject development.

An evaluation to determine the potential movement of soil due to rainfall and surface runoff during the construction of the project in accordance with Chapter 20.08 of the Maui County Code is also included.

II. PROPOSED PROJECT

A. Site Location:

The project site is located in Lahaina, on the island of Maui, and in the State of Hawaii. It is bordered by the Kahoma Stream on its southerly side, approximately 1,000 feet east (mauka) of Honoapiilani Highway, approximately 600 feet west of the Kalena Street - Kahena Street intersection. Bordering its northern and eastern boundaries are sugarcane fields.

The project site encompasses an area of approximately 36.5 acres.

B. Project Description:

The proposed development plan for Lahaina Business Park is to develop the project site into a light business subdivision consisting of forty-nine (49) business lots. Future roadway improvements will include asphalt paved roadways, concrete sidewalks, concrete curb and gutters, and

landscaping. Underground utility systems for drainage, water, and sewerage systems, and electrical and telephone distribution systems will also be installed.

III. EXISTING CONDITIONS

A. Topography and Soil Conditions:

The project site is presently undeveloped and being used by Pioneer Mill Company, Ltd. for cultivation of sugarcane.

The existing ground slopes from an elevation of (+) 121 ± feet M.S.L. to (+) 43 ± feet M.S.L. in the northeasterly to southwesterly direction with an average slope of approximately 6.5%.

According to the "Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii (August 1972)"¹, the soil type at the project site is classified as the Wahikuli Series, Wahikuli very stony silty clay, 3 to 7 percent slopes, eroded (WdB) (see Exhibit 2). This soil type is classified as having slow runoff and a slight erosion hazard.

B. Drainage:

According to our calculations, the pre-development onsite surface runoff volume is approximately 41.9 cfs. (see Appendix A). This surface runoff volume presently sheet flows across the project site, in a northeasterly to southwesterly direction, where it is intercepted by existing drainageways, and eventually discharges into Kahoma Stream, which runs along the southerly boundary of the project site.

Offsite surface runoff of approximately 42.0 cfs from the area located immediately northeast of the project site presently sheet flows through the project site by means of an existing natural drainageway. This drainageway discharges into Kahoma Stream approximately 1,800 feet downstream of the northeast boundary of the project site.

C. Flood and Tsunami Zone:

According to the proposed revisions to Panel Number 150003 0161B of the Flood Insurance Rate Map², dated December 6, 1991, prepared by the U.S. Federal Emergency Management Agency, Federal Insurance Administration, the project site will be entirely situated within Zone C which is designated as an area subject to minimal flooding (see Exhibit 3). This recent redesignation is consistent with improvements implemented in conjunction with the Kahoma Stream Flood Control project.

IV. DRAINAGE PLAN

A. General:

According to our calculations, the post development onsite surface runoff volume generated by the project site will be approximately 80.6 cfs. Accordingly there will be a net increase of approximately 38.7 cfs of onsite surface runoff due to the proposed development. (See Appendix A).

The design criteria which will be utilized for the design of the drainage system for the proposed development will include minimal alterations to the natural drainage pattern of both the onsite and offsite surface runoff.

As part of the subdivision improvements, new curb-inlet type catch basins will be installed within the proposed subdivision roadways to intercept the onsite surface runoff. The onsite surface runoff will then be conveyed by means of an underground drainage system which will be located within the subdivision roadways where it will be allowed to discharge into Kahoma Stream.

Offsite drainage improvements will consist of constructing a diversion ditch along the easterly boundary of the project site. The diversion ditch will intercept the offsite surface runoff which presently flows through the project site and divert it around the project site, where it will be discharged into Kahoma Stream as it is presently doing.

B. Hydrologic Calculations:

The hydrologic calculations are based on the "Drainage Master Plan for the County of Maui" ³, and the "Rainfall Frequency Atlas of the Hawaiian Islands" ⁴, Technical Paper No. 43, U.S. Department of Commerce, Weather Bureau.

Rational Formula Used: $Q = CIA$

Where Q = rate of flow (cfs)

A = area (acres)

I = rainfall intensity for a duration
equal to the time of concentration
(in./hr.)

C = runoff coefficient

C. Conclusion:

According to our calculations, the proposed development will generate an additional onsite surface runoff volume of approximately 38.7 cfs (see Appendix A). However, the onsite surface runoff volume generated by the proposed development will be intercepted by new curb-inlet type catch basins which will be installed as part of the improvements. An underground drainage system located within the subdivision roadways will convey the intercepted surface runoff volume into Kahoma Stream.

The offsite surface runoff volume presently sheet flowing through the project site will be intercepted and conveyed along the easterly boundary of the project site by means of a new diversion ditch, where it will discharge into Kahoma Stream as it is presently doing.

Since the additional onsite and offsite surface runoff volume generated by the proposed development will be conveyed to an adequate existing drainageway, Kahoma Stream, it is our professional opinion that the proposed Lahaina Business Park project will not adversely affect the adjoining properties.

V. SOIL EROSION CONTROL PLAN

A. Grading Plan:

Grading work for the roadways and lots will be conducted in three (3) phases to limit the area of grading to less than the allowable fifteen (15) acres. Upon completion of the grading for each phase, all exposed areas will

be grassed as required. All grassing on a grading phase will be completed before commencement of grading on the next phase.

B. Soil Erosion Control Plan:

The following measures will be taken to control erosion during the site development period.

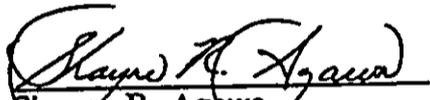
1. Minimize time of construction.
2. Retain existing ground cover until latest date to complete construction.
3. Early construction of drainage control features.
4. Use temporary area sprinklers in non-active construction areas when ground cover is removed.
5. Station water truck on site during construction period to provide for immediate sprinkling, as needed, in active construction zones (weekends and holidays included).
6. Use temporary berms and cut-off ditches, where needed, for control of erosion.
7. Graded areas shall be thoroughly watered after construction activity has ceased for the day and on weekends.
8. All cut and fill slopes shall be sodded or planted immediately after grading work has been completed.

The development project is provided with adequate facilities for drainage control and storm water disposal. This, together with ultimate ground cover, shall preclude any appreciable onsite erosion.

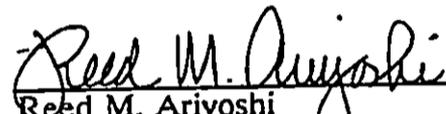
C. Conclusion:

According to our calculations, the sedimentation hazard to coastal waters and downstream properties for the proposed development are minimal (see Appendix B). The soil loss per unit area and severity rating computed for the proposed development are well within the tolerable limits and additional erosion control measures are not required.

Report Prepared By:


Shayne R. Agawa

Report Checked By:


Reed M. Ariyoshi

x:\wp51data\jagwp\93038001.rpt

VI. REFERENCES

1. *Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii.* August 1972. United States Department of Agriculture, Soil Conservation Service.
2. *Flood Insurance Rate Map, Maui County, Hawaii.* Community-Panel Number 150003 00161B. December 6, 1991. Federal Emergency Management Agency, Federal Insurance Administration.
3. *Drainage Master Plan for the County of Maui, State of Hawaii.* October 1971. R.M. Towill Corporation.
4. *Rainfall Frequency Atlas of the Hawaiian Islands, Technical Paper No. 43.* 1962. U.S. Department of Commerce, Weather Bureau.
5. *Storm Drainage Standards.* March 1986. Department of Public Works, City and County of Honolulu.

EXHIBITS

- 1 Location Map
- 2 Soil Survey Map
- 3 Flood Insurance Rate Map
- 4 Offsite Drainage Area Map

RM 24 39.8 Square cut on top of parapet at northwest end of railroad bridge over Kahama Stream, west of Cane H.

1 National Geodetic Vertical Datum of 1929

AREA REVISED

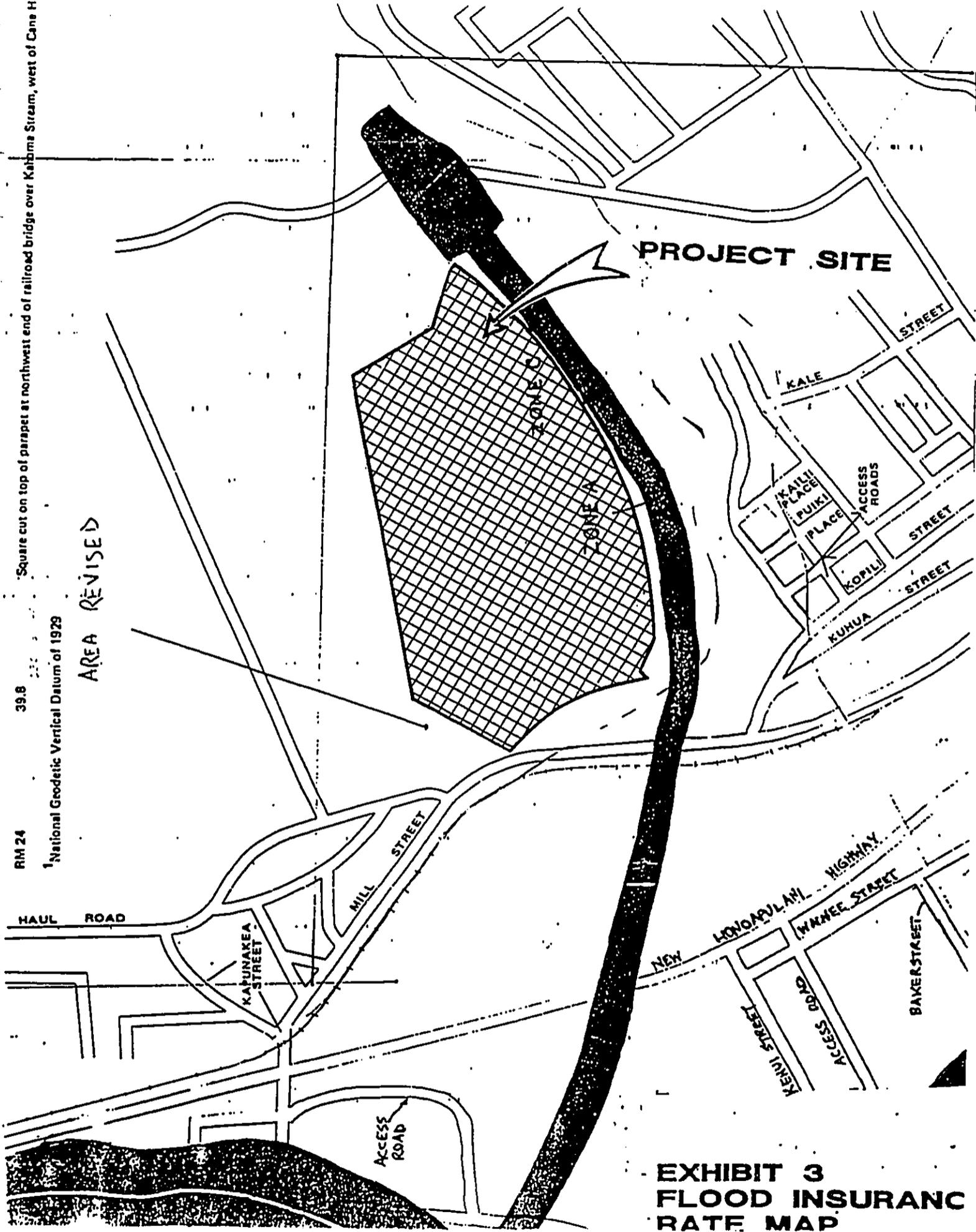
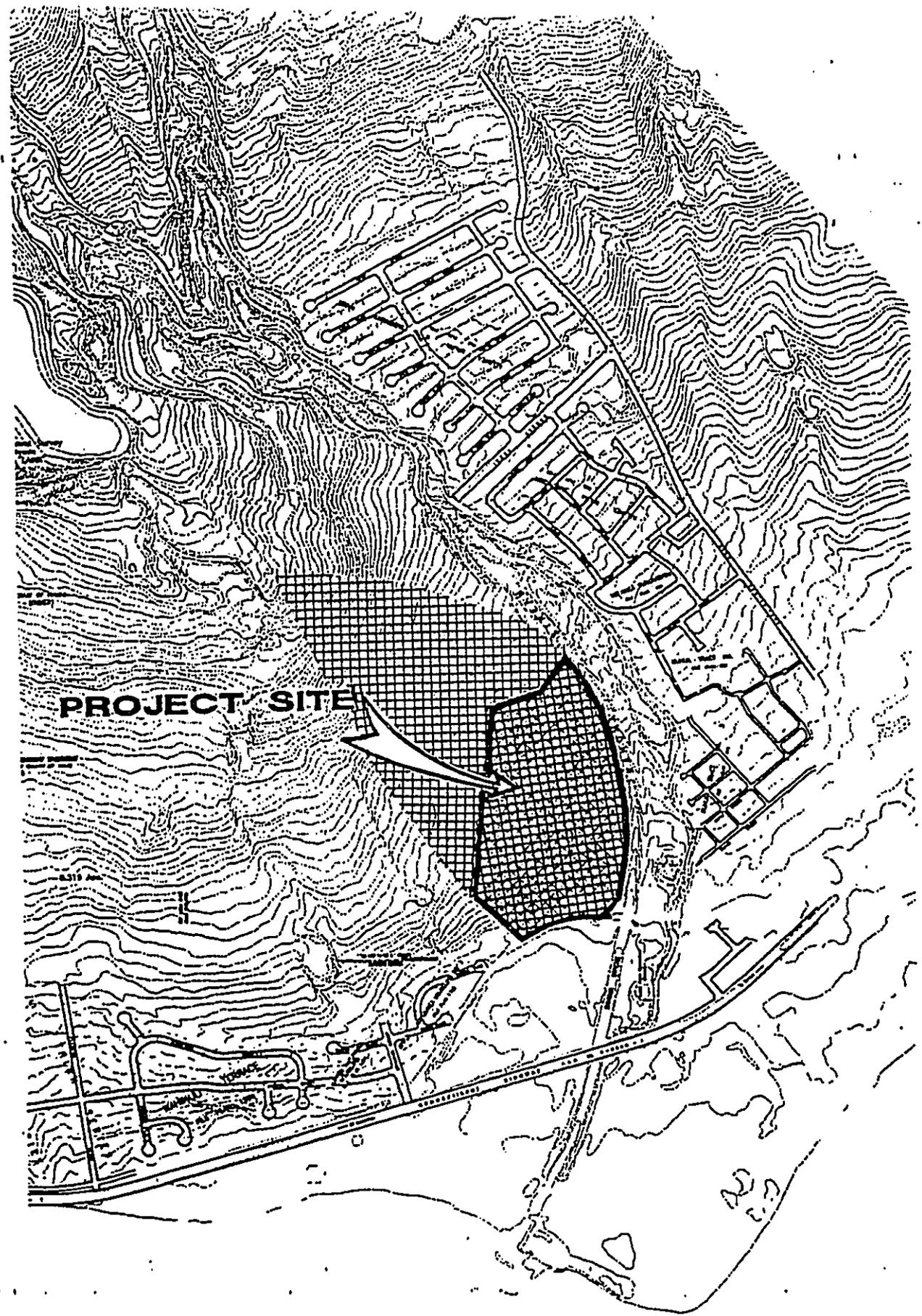


EXHIBIT 3
FLOOD INSURANCE
RATE MAP

DOCUMENT CAPTURED AS RECEIVED



**EXHIBIT 4
OFFSITE DRAINAGE
AREA MAP**

Page 1 of 2
W.S. UNEMORI ENGINEERING, INC
2145 Wells Street Suite 40
Wailuku, Maui, Hawaii 9679

BY: Shayne Agawa
DATE: August 2, 1994

HYDROLOGIC STUDY
FOR
LAHAINA BUSINESS PARK

Lahaina, Maui, Hawaii

Project Site (Pre-Development)

RECURRENCE INTERVAL:	50 years	HYDRAULIC LENGTH:	1200.0 ft.
ONE-HOUR RAINFALL:	2.63 inches	ELEV'N. DIFFERENTIAL:	78.00 ft.
		HYDRAULIC SLOPE:	0.065 ft./ft
WEIGHTED RUNOFF		TIME OF CONCENTRATION:	27.0 min.
COEFFICIENT, C:	0.28	SUB BASINS CONSIDERED:	1
INTENSITY, I:	4.10 inches		
AREA, A:	36.46 acres		

$$Q = C * I * A = 41.86 \text{ cfs}$$

COMMENTS:

Page 2 of 2
W.S. UNEMORI ENGINEERING, INC
2145 Wells Street Suite 401
Wailuku, Maui, Hawaii 9679.

BY: Shayne Agawa
DATE: August 2, 1994

LAHAINA BUSINESS PARK
[continued]

TABULATION OF RUNOFF COEFFICIENTS & AREAS:

SUB-BASIN 1 OF 1 : Cane Field

INFILTRATION:	Medium	0.07	
RELIEF:	Rolling (5-15%)	0.03	>>> COMPOSITE C = 0.2:
VEGETAL COVER:	Good (10-50%)	0.03	>>> AREA = 36.460 acro
DEVELOPMENT:	Agricultural	0.15	

CORRECTION

THE PRECEDING DOCUMENT(S) HAS
BEEN-REPHOTOGRAPHED TO ASSURE
LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING

DOCUMENT CAPTURED AS RECEIVED

Page 2 of 2
W.S. UNEMORI ENGINEERING, INC
2145 Wells Street Suite 40:
Wailuku, Maui, Hawaii 9679.

BY: Shayne Agawa
DATE: August 2, 1994

LAHAINA BUSINESS PARK
[continued]

TABULATION OF RUNOFF COEFFICIENTS & AREAS:

SUB-BASIN 1 OF 1 : Cane Field

INFILTRATION:	Medium	0.07	
RELIEF:	Rolling (5-15%)	0.03	>>> COMPOSITE C = 0.2:
VEGETAL COVER:	Good (10-50%)	0.03	>>> AREA = 36.460 acro
DEVELOPMENT:	Agricultural	0.15	

Page 1 of 2
W.S. UNEMORI ENGINEERING, INC
2145 Wells Street Suite 40
Wailuku, Maui, Hawaii 9679

BY: Shayne Agawa
DATE: August 2, 1994

HYDROLOGIC STUDY
FOR
LAHAINA BUSINESS PARK

Lahaina, Maui, Hawaii

Project Site (Post-Development)

RECURRENCE INTERVAL:	50 years	HYDRAULIC LENGTH:	2300.0 ft.
ONE-HOUR RAINFALL:	2.63 inches	ELEV'N. DIFFERENTIAL:	91.00 ft.
		HYDRAULIC SLOPE:	0.040 ft./ft
WEIGHTED RUNOFF		TIME OF CONCENTRATION:	38.0 min.
COEFFICIENT, C:	0.65	SUB BASINS CONSIDERED:	1
INTENSITY, I:	3.40 inches		
AREA, A:	36.46 acres		

$Q = C * I * A = 80.58 \text{ cfs}$

COMMENTS:

DOCUMENT CAPTURED AS RECEIVED

Page 2 of 2
W.S. UNEMORI ENGINEERING, INC
2145 Wells Street Suite 40
Wailuku, Maui, Hawaii 9679

BY: Shayne Agawa
DATE: August 2, 1994

LAHAINA BUSINESS PARK
[continued]

TABULATION OF RUNOFF COEFFICIENTS & AREAS:

SUB-BASIN 1 OF 1 : Industrial Park

INFILTRATION:	Medium	0.07	
RELIEF:	Flat (0-5%)	0.00	>>> COMPOSITE C = 0.6
VEGETAL COVER:	Good (10-50%)	0.03	>>> AREA = 36.460 acr.
DEVELOPMENT:	Industrial / Business	0.55	

Page 1 of 2
W.S. UNEMORI ENGINEERING, INC
2145 Wells Street Suite 4C
Wailuku, Maui, Hawaii 9679

BY: Shayne Agawa
DATE: August 2, 1994

HYDROLOGIC STUDY
FOR
LAHAINA BUSINESS PARK

Lahaina, Maui, Hawaii

Project Site and Offsite (Pre-Development)

RECURRENCE INTERVAL:	50 years	HYDRAULIC LENGTH:	3200.0 ft.
ONE-HOUR RAINFALL:	2.63 inches	ELEV'N. DIFFERENTIAL:	329.00 ft.
		HYDRAULIC SLOPE:	0.103 ft./ft
WEIGHTED RUNOFF		TIME OF CONCENTRATION:	41.0 min.
COEFFICIENT, C:	0.28	SUB BASINS CONSIDERED:	1
INTENSITY, I:	3.30 inches		
AREA, A:	90.77 acres		

$$Q = C * I * A = 83.87 \text{ cfs}$$

COMMENTS:

DOCUMENT CAPTURED AS RECEIVED

Page 2 of 2
W.S. UNEMORI ENGINEERING, INC
2145 Wells Street Suite 40
Wailuku, Maui, Hawaii 9679

BY: Shayne Agawa
DATE: August 2, 1994

LAHAINA BUSINESS PARK
[continued]

TABULATION OF RUNOFF COEFFICIENTS & AREAS:

SUB-BASIN 1 OF 1 : Cane Field

INFILTRATION:	Medium	0.07	
RELIEF:	Rolling (5-15%)	0.03	>>> COMPOSITE C = 0.2
VEGETAL COVER:	Good (10-50%)	0.03	>>> AREA = 90.770 ac
DEVELOPMENT:	Agricultural	0.15	

DOCUMENT CAPTURED AS RECEIVED

Page 1 of 2
W.S. UNEMORI ENGINEERING, INC
2145 Wells Street Suite 4C
Wailuku, Maui, Hawaii 96756

BY: Shayne Agawa
DATE: August 2, 1994

HYDROLOGIC STUDY
FOR
LAHAINA BUSINESS PARK

Lahaina, Maui, Hawaii

Project Site and Offsite (Post-Development)

RECURRENCE INTERVAL:	50 years	HYDRAULIC LENGTH:	4160.0 ft.
ONE-HOUR RAINFALL:	2.63 inches	ELEV'N. DIFFERENTIAL:	337.00 ft.
		HYDRAULIC SLOPE:	0.081 ft./ft
WEIGHTED RUNOFF			
COEFFICIENT, C:	0.43	TIME OF CONCENTRATION:	41.8 min.
INTENSITY, I:	3.30 inches		
AREA, A:	90.77 acres	SUB BASINS CONSIDERED:	2

$$Q = C \cdot I \cdot A = 128.39 \text{ cfs}$$

COMMENTS:

DOCUMENT CAPTURED AS RECEIVED

Page 2 of 2
W.S. UNEMORI ENGINEERING, INC
2145 Wells Street Suite 40
Wailuku, Maui, Hawaii 9679

BY: Shayne Agawa
DATE: August 2, 1994

LAHAINA BUSINESS PARK
[continued]

TABULATION OF RUNOFF COEFFICIENTS & AREAS:

SUB-BASIN 1 OF 2 : Cane Field

INFILTRATION:	Medium	0.07	
RELIEF:	Rolling (5-15%)	0.03	>>> COMPOSITE C = 0.2
VEGETAL COVER:	Good (10-50%)	0.03	>>> AREA = 54.310 acr
DEVELOPMENT:	Agricultural	0.15	

SUB-BASIN 2 OF 2 : Industrial Park

INFILTRATION:	Medium	0.07	
RELIEF:	Flat (0-5%)	0.00	>>> COMPOSITE C = 0.6
VEGETAL COVER:	Good (10-50%)	0.03	>>> AREA = 36.460 acr
DEVELOPMENT:	Industrial / Business	0.55	

APPENDIX B

Universal Soil Loss Equation Calculations

H.E.S.L. Report Page 1 of 3
W.S. UNEMORI ENGINEERING, INC.
2145 Wells Street Suite 403
Wailuku, Maui, Hawaii 96793

BY: Shayne Agawa
DATE: August 2, 1994

H . E . S . L .
FOR
LAHAINA BUSINESS PARK

Typical Grading Phase
Lahaina, Maui, Hawaii

1. HESL EQUATION: $E = R * K * LS * C * P$

WHERE: E = Soil Loss (tons/acre/year)
R = Average Annual Rainfall Factor for Erosion
K = Soil Erodibility Factor
L = Horizontal Slope Length (feet)
S = Average Slope (%)
LS = Slope Factor (function of L and S)
C = Cover and Management Factor
P = Erosion Control Practice Factor

R = 165.0 tons/acre/year
(Soil Erosion & Sediment Control Guide for Hawaii;
Appendix A: Average Annual Values of Rainfall Factor)

K = 0.17 Soil Series: Wahikuli
(Soil Survey of Islands of Kauai, Oahu, Maui, Molokai,
and Lanai, State of Hawaii; Soil Type Plates & Table 4;
Soil Properties Related to Erosion & Sedimentation

L = 1,200.0 feet
 δ = 77.0 feet
(Soil Erosion & Sediment Control Guide for Hawaii;
Table 16)

S = (δ/L)
= 6.4 %

LS = 2.544

H.E.S.L. Report Page 2 of 3
W.S. UNEMORI ENGINEERING, INC.
2145 Wells Street Suite 403
Wailuku, Maui, Hawaii 96793

BY: Shayne Agawa
DATE: August 2, 1994

LAHAINA BUSINESS PARK
[Continued]

C = 1.00
(Soil Erosion & Sediment Control Guide for Hawaii
Tables 17-22, Pages 59-61; C=1.00 for Bare Soil)

P = 1.00
(Soil Erosion & Sediment Control Guide for Hawaii:
the Universal Soil Loss Equation in Hawaii)

E = R*K*LS*C*P
= 71.4 tons/acre/year

2. SEVERITY RATING NUMBER EQUATION: $H = [(2 * F * T) + (3 * D)] * A * E$

WHERE: H = Severity rating number
T = Duration of land-disturbing activity (years)
A = Area subject to disturbance (acres)
E = Rate of soil loss under disturbed conditions
(tons/acre/year)
F = Downslope-downstream rating factor
(rating points/ton)
D = Coastal water rating factor
(rating points/ton)

T = 1.00 years

A = 15.00 acres

E = R*K*LS*C*P
= 71.4 tons/acre/year

F = 4 (Downslope-downstream detriment: Major)

D = 2 (Coastal water rating factor: Class A)

H = $[(2 * F * T) + (3 * D)] * A * E$
= 14,987.4

Standard severity rating (allowable): $50,000 \geq 14,987.4 \Rightarrow$ OK

H.E.S.L. Report Page 3 of 3
W.S. UNEMORI ENGINEERING, INC.
2145 Wells Street Suite 403
Wailuku, Maui, Hawaii 96793

BY: Shayne Agawa
DATE: August 2, 1994

LAHAINA BUSINESS PARK
[Continued]

3. MAXIMUM ALLOWABLE SOIL LOSS: $E_{max} = H_{max}/(2FT+3D)A$

$$E_{max} = H_{max}/(2FT+3D)A, \quad H_{max} = 50,000$$
$$= 238.1 \text{ tons/acre/year} \geq 71.4 \text{ tons/acre/year} \Rightarrow \text{OK}$$

Coastal Hazard: Class A waters are approximately 3,000 feet from the site.

CONCLUSION: Sedimentation hazard to coastal waters and downstream properties is minimal. Erosion rate computed for this project site is within the tolerable limits and additional control measures are not required.

4. REFERENCES:

1. Soil Conservation Service (USDA); 'Guidelines For Use of the Universal Soil Loss Equation in Hawaii,' Technical Notes, March 1975. (Revised Draft)
2. County of Maui; (Ord No. 816), 'Chapter 24, Soil Erosion and Sedimentation Control,' June 13, 1975.
3. Soil Conservation Service (USDA); 'Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai; State of Hawaii, August 1972.
4. Hawaii Environmental Simulation Laboratory; 'Guidelines for Data Preparation, Part 1: Universal Soil Loss Equation; Undated (Draft).



Appendix F

Botanical Survey



BOTANICAL SURVEY
LAHAINA BUSINESS PARK
LAHAINA DISTRICT, ISLAND OF MAUI

by

Joseph Feigelson

Botanical Research Consultants
Maui, Hawaii

Prepared for: WEST MAUI VENTURE GROUP

March 1994

Table of Contents

	<u>page</u>
INTRODUCTION.....	1
SURVEY METHODS.....	2
DESCRIPTION OF THE VEGETATION.....	3
1. CANE FIELDS.....	3
2. ROCK PILES.....	3
DISCUSSION AND RECOMMENDATIONS.....	4
LITERATURE CITED.....	5
PLANT AND SPECIES CHECKLIST.....	6,7

**BOTANICAL SURVEY
WEST MAUI VENTURE GROUP PROJECT
LAHAINA DISTRICT, ISLAND OF MAUI**

INTRODUCTION

The West Maui Venture Group project site consists of 37.7 acres and is a ten year development project. It is anticipated that 32 acres will become net usable parcels for sale in fee or leasehold interest. The project site (TMK 4-5-10:5) is bordered to the south by the Kahona Stream Flood Control Channel, to the north by the Hawaii Finance Development Corporation's Villages of Lei'ali'i affordable housing development project. Directly below (makai of) the project is approximately 21.39 acres of vacant land currently owned by Hawaii Omori Corp. This 21.39 acres lies above (mauka of) the Lahaina Cannery Shopping center.

The entire project site is presently under active sugar cane cultivation. Uncultivated areas occur along and on top of two rock piles and along the perimeter of cane access roads.

Field studies to assess the botanical resources on the site were conducted in February 1994. The primary objectives of the field study were to (1) describe the major vegetation types; (2) inventory the terrestrial, vascular plants; and (3) search for threatened and endangered species on the project site.

SURVEY METHODS

Prior to undertaking the field survey, a search was made of the pertinent literature to familiarize the principal investigator with other botanical studies conducted in the general area.

Topographic maps and recent aerial photographs were examined to determine access, terrain characteristics, vegetation patterns and potential logistical and technical problems. Access onto most parts of the project site was provided by a number of unpaved cane haul access roads which run through the site.

A walk-through survey method was used. Notes were made on plant associations and distribution, substrate types, exposure, etc.

Plants which could not be positively identified were in the field were collected for later determination and for comparison with the taxonomic literature. The species recorded were indicative of the season and environmental conditions under which the survey was conducted. As this survey was taken during the wetter rainy season it would no doubt yield slight variations in the species list, especially of the weedy annual taxa.

DESCRIPTION OF THE VEGETATION

The lands immediately adjacent to (north of) the project site have recently been surveyed (Char and Associates 1989) for Lahaina HFDC project. Other surveys in the area include: Lahaina Bypass Highway (Char 1986; Char 1988) and AMFAC's South Beach Mauka project. (Char and Linney 1989). In all of these flora surveys, actively cultivated fields of sugar cane comprised the major vegetation type. Scrub vegetation, usually koa-haole shrubs and buffel grass occurred on uncultivated areas. No plants considered threatened or endangered by the federal and/or state governments were found during these surveys.

In this report, vegetation on the project site is described from two areas: (1) cane fields and (2) rock piles.

1. Cane Fields

The cane fields along with their network of cane haul access roads cover the majority of the subject property. The cane fields occur on well-drained, deep soils of the Waiakoa-Keahua-Molokai association (Foote et al. 1972). The fast growing sugar cane (Saccharum officinarum) tends to shade out other plants and the majority of the weedy species associated with cultivated, agricultural lands. These weedy species occur along the margins of fields and access roads. Only the hardy nut grass (Cyperus rotundus) has adapted well to growing under the dense cane. It was not uncommon to find patches of ferns such as hairy sword fern (Nephrolepis multiflora) clinging to the sides of the sugar cane along the access road boundaries. Among the most frequently observed weedy species found along the cane fields are two grasses: swollen finger grass (Chloris barbata) and buffel grass (Cenchrus ciliaris). Other plants found occasionally include young koa-haole shrubs (Leucaena leucocephala), Canada fleabane (Conyza canadensis), Pluchea (Pluchea symphytifolia), maile hohono (Ageratum conyzoides), virgate mimosa (Desmanthus virgatus), wild bittermelon (Mormodica charantia), Bermuda grass (Cynodon dactylon), Natal redtop (Rhyncheletrum repens) and little bell (Ipomoea triloba).

2. Rock Piles

There are two significant piles of rocks and boulders dispersed within the fields of the property. These support koa-haole scrub with a dense ground cover of buffel grass and swollen finger grass along their perimeter and a cover of buffel grass across their tops.

DISCUSSION AND RECOMMENDATIONS

Vegetation on the WEST MAUI VENTURE GROUP project site consists almost exclusively of actively cultivated sugar cane fields along with associated weedy species found alongside cane haul roads, margins of fields and on rock piles. Uncultivated portions such as the rock piles support largely koa-haole shrubs and buffel grass. The majority of the plants occurring on the site are introduced or alien (see species checklist at end of report).

None of the species are officially listed threatened or endangered species by the federal and/or the state government (U.S. Fish and Wildlife Service 1985; Herbst 1987); nor are any of them candidate or proposed for such status.

There is little of botanical interest or concern on the project site as the site has been disturbed by agricultural activities. The proposed development will not have an impact on the total island populations of the species involved as they occur in similar lowland situations throughout the islands.

LITERATURE CITED

- Char, W.P. 1986. Botanical reconnaissance survey. Proposed widening and realignment alternatives, Hono-a-pi'ilani Highway, Puamana to Ka'ana-pali. Prepared for Environmental Communications, Inc., Honolulu. March 1986.
- Char, W.P. 1988. Botanical survey, Hono-a-pi'ilani Highway, island of Maui. Proposed widening and realignment alternatives. Prepared for Environmental Communications, Inc., Honolulu, March 1988.
- Char, W.P. and G.K. Linney. 1989. Botanical survey, South Beach Mauka, Ka'anapali, Maui. Prepared for Helber, Hastert and Kimura, Honolulu. January 1989.
- Char, W.P. 1989 Botanical survey, Lahaina HFDC Project. Prepared for PBR Hawaii, Honolulu September 1989.
- Foote, D.E., E.L.Hill, S. Nakamura and F. Stephens. 1972. Soil survey of the islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawaii. U.S. Soil Conservation Service, Dept. of Agriculture, Washington D.C.
- Herbst, D. 1987 Status of endangered Hawaiian plants. Hawaiian Botanical Society Newsletter 26(2): 44-45.
- Lamoreux, C.H. 1984. Checklist of Hawaiian Pteridophytes. Manuscript.
- Porter, J.R. 1972. Hawaiian names for vascular plants, Coll. of Tropical Agriculture. Hawaiian Agricultural Experimental Station, Univ. of Hawaii. Dept. Paper No. 1. March 1972.
- St. John, H. 1973. List and summary of flowering plants in the Hawaiian Islands. Pacific Tropical Garden Mem. No. 1 Lawai, Kauai.
- U.S. Fish and Wildlife Service. 1985. Endangered and threatened wildlife and plants; Review of plant taxa for listing as Endangered and Threatened Species; Notice of review. Fed. Register 50(188): 39526-39527 plus 57 pg. table of plant species.
- Wagner, W.L., D. Herbst, and S.H. Sohmer. Manual of the flowering plants of Hawaii. B.P. Bishop Museum and Univ. Press of Hawaii, Honolulu 1990.

PLANT SPECIES CHECKLIST

Following is a checklist of all those vascular plant species inventoried during the field study. Plant families are arranged alphabetically within each of three groups: Ferns and Fern Allies, Monocots and Dicots. Taxonomy and nomenclature of the ferns and Fern Allies follow Lamoreux (1984); the flowering plants (Monocots and Dicots) are in accordance with Wagner *et al.* (1990). In most cases, common English and/or Hawaiian names given follow St. John (1973) or Porter (1972).

For each species, the following information is provided:

1. Scientific name with author citation.
2. Common English or Hawaiian name, when known.
3. Biographic status. The following symbols are used:
 - P - Polynesian - plants of early polynesian introduction prior to Western contact (1778); not native.
 - X - introduced or alien - all those plants brought to the islands intentionally or accidentally after Western contact; not native.
4. Presence (+) or absence (-) of a particular species within each of the two vegetation types recognized on the project site (See text for discussion):
 - C - Cane fields and margins.
 - R - Rock piles vegetation.

VEGETATION TYPE <u>Scientific Name</u>	<u>Common Name</u>	<u>Status</u>	<u>C</u>	<u>R</u>
FERN AND FERN ALLIES				
NEPHROLEPIDACEAE (Sword Fern Family)				
Nephrolepis multiflora (Roxb.) Jarrett ex Morton	hairy sword fern, kupukupu	X	+	-
MONOCOTS				
AGAVACEAE (Sisal Family)				
Furcraea foetida (L.) Haw.	Mauritius hemp	X	+	-
COMMELINACEAE (Spiderwort Family)				
Commelina diffusa N.L. Burm.	honohono	X	+	-
CYPERACEAE (Sedge Family)				
Cyperus rotundus L.	nutgrass, nut sedge	X	+	-
POACEAE (Grass Family)				
Brachiaria mutica (Forssk.) Staph	California grass	X	+	-
Cenchrus ciliaris L.	buffel grass	X	+	-
Cenchrus echinatus L.	common sandbur, 'ume 'alu	X	+	-
Chloris barbata (L.) Sw.	swollen finger grass, mau'ulei	X	+	-
Cynodon dactylon (L.) Pers.	Bermuda grass, manienie.	X	+	-
Eragrosti tenella (L.)	lovegrass	X	+	-
Rhynchelytrum repens (Willd.) Hubb.	Natal redtop	X	+	-
Saccharum officinarum L.	Sugar cane, ko	P	+	-
DICOTS				
AMARANTHACEAE (Amaranth Family)				
Amaranthus spinosis L.	Spiny amaranth, pakai kuku	X	+	-
ASTERACEAE (Sunflower Family)				
Ageratum conyzoids L.	maile hohono	X	+	-
Bidens pilosa L.	Spanish needle, beggar's tick	X	+	-
Conyza canadensis L. Cronq.	Canada fleabane, ilioha	X	+	-
Pluchea symphitifolia (Mill.) Gillis	pluchea	X	+	-
Sonchus oleraceus L.	sow thistle, pualele	X	+	-
CONVOLVULACEAE (Morning glory Family)				
Ipomoea triloba L.	little bell	X	+	-
CUCURBITACEAE (Gourd Family)				
Mormodica charantia L.	wild bittermelon	X	+	-
EUPHORBIACEAE (Spurge Family)				
Ricinus communis L.	castor bean, koli	X	+	-
FABACEAE (Pea family)				
Desmanthus virgatus (L.) Willd.	virgate mimosa	X	+	-
Leucaena leucocephala (Lam.) de wit.	koa-haole	X	+	-
SOLONACEAE (Nightshade Family)				
Lycopersicon pimpinellifolium(Jusl.) Mill.	wild tomato, currant tomato	X	+	-



Appendix G

Survey Avifauna and Feral Mammals

SURVEY OF THE AVIFAUNA AND FERAL MAMMALS
AT TMK 4-5-10:5 LAHAINA, MAUI

Prepared for
Stephen J. Fulton
and
West Maui Venture Group
by

Phillip L. Bruner
Assistant Professor of Biology
Director, Museum of Natural History
BYU-Hawaii
Environmental Consultant Faunal (Bird & Mammal) Surveys

24 March 1994

J

INTRODUCTION

The purpose of this report is to summarize the findings of a one day (17 March 1994) bird and mammal field survey of 37.7 acres at TMK 4-5-10:5, Lahaina, Maui. Also included are references to pertinent literature and unpublished reports.

The objectives of the field survey were to:

- 1- Document what bird and mammal species actually or potentially occur on the property.
- 2- Provide some baseline data on the relative abundance of each species.
- 3- Note the presence or likely occurrence of any native fauna particularly those that are considered "Endangered" or "Threatened". If such occur or may likely be found on the property identify what if any features of the habitat may be essential for these species.
- 4- Determine if the property contains any special or unique habitats that if lost or altered by development might result in a significant impact on the fauna in this region of the island.

SITE DESCRIPTION

The project site is presently covered in sugarcane. Kahoma Stream Flood Control Channel and residential lots adjoin the property. No wetland habitat occurs at this location.

The weather during the survey was cloudy and cool. Winds were from the north at 10 mph with occasionally stronger gusts.

STUDY METHODS

The property was surveyed on foot following existing roads. Field observations were made with the aid of binoculars and by listening for vocalizations.

At scattered locations throughout the site, eight minute counts were made of all birds seen or heard. These data provide the basis for the relative abundance estimates given in Table One. Unpublished reports of birds known from similar habitat nearby were also consulted in order to acquire a better perspective of the possible fauna that could occur in this region and their potential relative abundance (Bruner 1986, 1988a, 1988b, 1989a, 1989b, 1991, 1992). Observations of feral mammals were limited to visual sightings and evidence in the form of scats and tracks. No attempts were made to trap mammals in order to obtain data on their relative abundance and distribution.

Scientific names used in this report are those given in Hawaii's Birds (Hawaii Audubon Society 1993); A field guide to the birds of Hawaii and the tropical Pacific (Pratt et al. 1987) and Mammal species of the World (Honacki et al. 1982).

RESULTS AND DISCUSSION

Resident Endemic and Indigenous (Native) Birds:

No resident endemic or indigenous birds were recorded on the survey. A possible species which may at times occur in this region is the Short-eared Owl or Pueo (Asio flammeus sandwichensis). Pueo forage in agricultural fields as well as in forested upland habitats (Hawaii Audubon Society 1993). Irrigation ditches on nearby sugarcane lands provide foraging opportunities for Black-crowned Night Heron (Nycticorax nycticorax). This species is the only native waterbird that is not currently listed as endangered or threatened.

Migratory Indigenous (Native) Birds:

Migratory shorebirds winter in Hawaii between the months of August through May. Some juveniles will stay over the summer months as well (Johnson et al. 1981, 1983, 1989). The most abundant shorebird species which winters in Hawaii is the Pacific Golden Plover (Pluvialis fulva). Plover forage in open areas such as mud flats, lawns, pastures, plowed agricultural fields and roadsides. They

arrive in Hawaii from their breeding grounds in the arctic during early August. Their departure back to the arctic takes place in late April. Plover are extremely site-faithful and many establish winter foraging territories which they defend vigorously. Such behavior makes it possible to acquire a fairly good estimate of the abundance of plover in any one area. These populations likewise remain relatively stable over many years (Johnson et al. 1989). A total of four plover were recorded on the survey. These birds were seen along roads surrounding the property or flying over the site.

Resident Indigenous (Native) Seabirds:

No seabirds were recorded nor would any be expected at this location. Predators such as dogs, cats and the Small Indian Mongoose (Herpestes auropunctatus), along with human disturbance inhibit seabird nesting at all but a few isolated locations on the main Hawaiian Islands.

Exotic (Introduced) Birds:

A total of 11 species of exotic birds were recorded during the field survey. Table One shows the relative abundance of each. In addition to these species other exotic birds which potentially could occur on the property include: Cattle Egret (Bubulcus ibis), Barn Owl (Tyto alba), Ring-necked Pheasant (Phasianus colchicus), Northern Mockingbird (Mimus polyglottus), Red-crested Cardinal

(Paroaria coronata) and Eurasian Skylark (Alauda arvensis) (Pratt et al. 1987; Hawaii Audubon Society 1993; Bruner 1986, 1988a, 1988b, 1989a, 1989b, 1991, 1992).

Feral Mammals:

Two Small Indian Mongoose were observed on the survey. Cat tracks were also seen. Records of the endemic and endangered Hawaiian Hoary Bat (Lasiurus cinereus semotus) on Maui are limited (Tomich 1986; Kepler and Scott 1990). None were observed on this field survey. This species is known to roost solitarily in trees and often is observed foraging over ponds and bays. The life history of this species is poorly known. Kepler and Scott (1990) suggest that bats occur on Maui only as a "migrant, probably from the Big Island". Others (Duvall and Duvall 1991), report evidence that would suggest there may be a resident breeding population of bats on Maui.

CONCLUSION

A short field survey can only provide a limited view of the wildlife that may use the site. The number of species and their relative abundance may vary throughout the year due to resource (food, water) availability and reproductive success. Species which are migratory will only be an important part of the faunal picture at certain times during the year. Exotic species sometimes prosper for a time only to later disappear or become a less significant part

of the faunal community (Williams 1987; Moulton 1990). Thus only long term studies can provide a comprehensive view of the bird and mammal populations in a particular area. However, some general conclusions related to bird and mammal activity at this site can be made. Below is a summary of the findings of this survey.

- 1- The site was surveyed on one day by walking the roads which surround and traverse the property. The habitat is dominated by sugarcane. Nearby residential lots provide additional bird habitat. Census data were obtained at random locations throughout the property and are reported in Table One.
- 2- No resident native birds were recorded. Black-crowned Night Heron utilize ditches and reservoirs on nearby lands. The Pueo may also forage in this area.
- 3- Mongoose were recorded at this site. No trapping was conducted in order to determine their relative abundance. However, no unusual concentrations were noted. No endangered species such as the Hawaiian Hoary Bat were recorded.
- 4- No unusual or exceptional wildlife habitats were found on this property. Sugarcane fields are abundant in this sector of Maui.

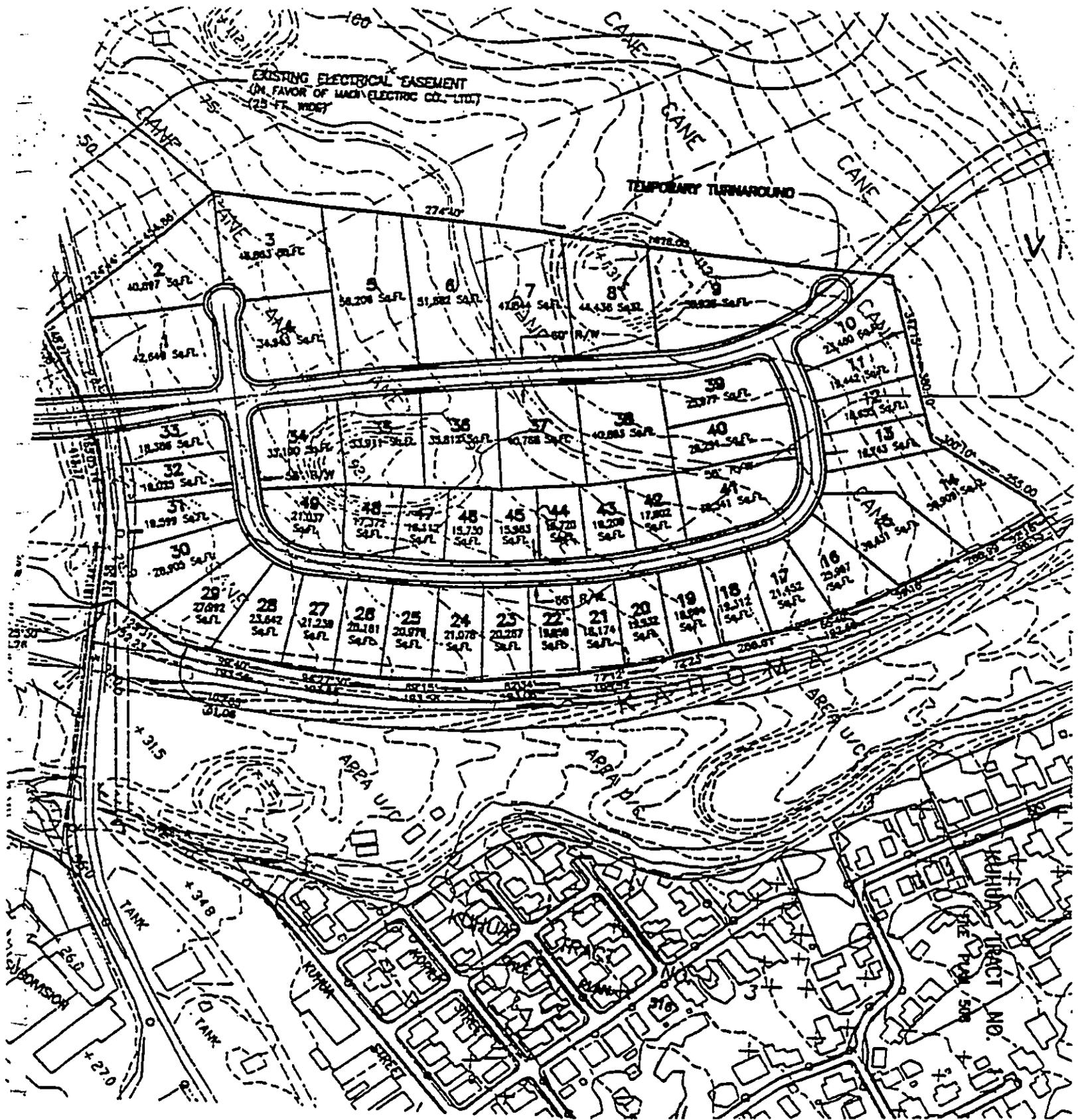


Fig. 1. Location of project site and faunal survey.

TABLE 1

Exotic species of birds recorded at TMK. 4-5-10:5, Lahaina, Maui.

COMMON NAME	SCIENTIFIC NAME	RELATIVE ABUNDANCE*
Black Francolin	<u>Francolinus francolinus</u>	R = 4
Gray Francolin	<u>Francolinus pondicerianus</u>	C = 6
Spotted Dove	<u>Streptopelia chinensis</u>	C = 5
Zebra Dove	<u>Geopelia striata</u>	A = 13
Common Myna	<u>Acridotheres tristis</u>	U = 4
Northern Cardinal	<u>Cardinalis cardinalis</u>	C = 6
Japanese White-eye	<u>Zosterops japonicus</u>	C = 8
Nutmeg Mannikin	<u>Lonchura punctulata</u>	U = 7
Warbling Silverbill	<u>Lonchura malabarica</u>	U = 4
House Finch	<u>Carpodacus mexicanus</u>	U = 3
House Sparrow	<u>Passer domesticus</u>	R = 16

(see page 9 for key to symbols)

KEY TO TABLE 1

Relative abundance = Number of times observed during the survey or frequency on eight minute counts in appropriate habitat.

A = abundant (ave. 10+)

C = common (ave. 5-10)

U = uncommon (less than 5)

R = recorded (seen or heard on one count only or at times other than on 8 min. counts. Number which follows is the total number of individuals seen or heard)

SOURCES CITED

- Bruner, P. L. 1986. An avifaunal and feral mammals survey of Kapalua development subdivision, Honokahua, Lahaina, Maui. Unpubl. ms.
- _____. 1988a. Survey of the avifauna and feral mammals at South Beach Mauka, Kaanapali, Maui. Unpubl. ms.
- _____. 1988b. Survey of the avifauna and feral mammals at North Beach Mauka, Kaanapali, Maui. Unpubl. ms.
- _____. 1989a. Field survey of the avifauna and feral mammals at Kapalua, Maui. Unpubl. ms.
- _____. 1989b. Field survey of the avifauna and feral mammals for the Lahaina HFDC Master Plan, Maui. Unpubl. ms.
- _____. 1991. Survey of the avifauna and feral mammals at Lahaina, Maui for the Lahaina HFDC Master Plan Project/Offsite sewer and water improvements. Unpubl. ms.
- _____. 1992. Survey of the avifauna and feral mammals at the proposed site of Puukolii Village, Lahaina, Maui. Unpubl. ms.
- Duvall, F. and R. G. Duvall. 1991. No bats on Maui? Look again 'Elepaio 51(3):1-2.
- Hawaii Audubon Society. 1993. Hawaii's Birds. Fourth Edition. Hawaii Audubon Society, Honolulu.
- Honacki, J. H., K. E. Kinman and J. W. Koeppel ed. 1982. Mammal species of the World: A taxonomic and geographic reference. Allen Press, Inc. and the Association of Systematic Collections, Lawrence, Kansas.
- Johnson, O. W., P. M. Johnson, and P. L. Bruner. 1981. Wintering behavior and site-faithfulness of Golden Plovers on Oahu. 'Elepaio 41(12):123-130.
- Johnson, O.W. and P. M. Johnson. 1993. Plumage-molt-age relationships in "Over-summering" and migratory Lesser Golden-Plovers. Condor 85:406-419.

- Johnson, O. W., M. L. Morton, P. L. Bruner, and P. M. Johnson. 1989. Winter range fat cyclicity in Pacific Golden-Plovers (Pluvialis fulva) and predicted migratory flight ranges. *Condor* 91:156-177.
- Kepler, C. B. and J. M. Scott. 1990. Notes on distribution and behavior of the endangered Hawaiian Hoary Bat (Lasiurus cinereus semotus). 'elepaio 50(7):59-64.
- Moulton, M. P., S. L. Pimm and M. W. Krissinger. 1990. Nutmeg Mannikin (Lonchura punctulata): a comparison of abundance in Oahu vs. Maui sugarcane fields: evidence for competitive exclusion? 'elepaio 50(10):83-85.
- Pratt, H. D., P. L. Bruner and D. G. Berrett. 1987. A field guide to the birds of Hawaii and the tropical Pacific. Princeton Univ. Press.
- Tomich, P. Q. 1986. Mammals in Hawaii. Bishop Museum Press. Honolulu.
- Williams, R. N. 1987. Alien birds on Oahu 1944-1985. 'Elepaio 47(9):87-92.



Lahaina
BUSINESS PARK

WWW.LAHAINABUSINESSPARK.COM

Appendix H

Historic Preservation Review



JOHN WADSWORTH
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
33 SOUTH KING STREET, 8TH FLOOR
HONOLULU, HAWAII 96813

KEITH AITUE, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCE

DEPUTIES

JOHN P. KEPPELER II
DONA L. HANAKE

AQUACULTURE DEVELOPMENT
PROGRAM

AQUATIC RESOURCES
CONSERVATION AND
ENVIRONMENTAL AFFAIRS
CONSERVATION AND
RESOURCES ENFORCEMENT
CONVEYANCES

FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
DIVISION

LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

November 2, 1993

Mr. Stephen Fulton
c/o West Maui Venture Group
Box 220, Kihei Trade Center
Kihei, Maui, Hawaii 96753

LOG NO: 9907
DOC NO: 9310AG49

Dear Mr. Fulton:

**SUBJECT: Historic Preservation Review of a Proposed Petition for
a Land Use District Boundary Amendment
Panaewa, Lahaina, Maui
TMK: 4-5-10: por. of 5**

This responds to your request for comments made by a telephone call to Ms. Annie Griffin of our staff on October 25, 1993. A portion of this parcel is proposed for amendment from Agricultural District to Urban District for an unnamed light industrial project.

According to our records, there are no known historic sites on this parcel, which has been under sugarcane cultivation for many years by Pioneer Mill Co. Ltd. In addition, the area along Kahoma Stream has been extensively altered by the recent construction of the stream erosion channel. Our review of previous archaeological surveys in adjacent lands and land records of Land Commission Awards within this parcel indicates that past land use activities in the project area consisted of residential and agricultural use. The stream was most likely perennial up to the 19th century and provided fresh water for domestic use and irrigation of taro terraces. The lands away from the stream were cultivated for sweet potatoes.

The sugar plantation in Lahaina started in 1859 when the Lahaina Sugar Company was established. The second plantation, Pioneer Mill Co., the company which currently owns and grows most of the sugarcane in Lahaina, was established the following year. The project area has been under intensive cultivation for almost a century. Any remains of the residential and agricultural use of this area such as house foundations, enclosures, stone mounds or terraces would have been obliterated. Also, in an inspection of